

FIRE IN THE CITY
AIRPOWER
IN URBAN, SMALLER-SCALE CONTINGENCIES

BY

MAJOR J. MARCUS HICKS

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ABOUT THE AUTHOR

Major J. Marcus Hicks is a Virginia native and a 1986 graduate of the Virginia Military Institute with a Bachelor of Science Degree in Electrical Engineering. He is a senior pilot with over 2500 hours, mostly in gunships, and a staff assignment at Headquarters, Air Force Special Operations Command.

An outstanding graduate of Squadron Officer School, Major Hicks also has a master's degree in International Relations from Troy State University and a Master's of Military Arts and Sciences from the US Army Command and General Staff College. Following his initial assignment to the AC-130H in the 16th Special Operations Squadron, Hurlburt Fld, Florida, he has served as an instructor and flight examiner and as an initial cadre flight examiner in the AC-130U, in the 4th Special Operations Squadron, also at Hurlburt Fld. Major Hicks flew in Operations Just Cause in Panama, Desert Shield in Saudi Arabia, and Deny Flight over Bosnia. While assigned to Headquarters Air Force Special Operations Command he was the Chief of AC-130 Weapons and Tactics. Following graduation from the School of Advanced Airpower Studies, his next assignment is to Headquarters US Air Force Strategy, Concepts, & Doctrine Division.

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ABSTRACT

This study examines the roles and missions of airpower in urban operations in smaller-scale contingencies. Urban operations, often referred to as military operations on urbanized terrain (MOUT), are some of the most complex and difficult missions currently facing the US military. Smaller-scale contingencies introduce the challenge of significant political constraints and an increasing intolerance for casualties and collateral damage. To capture the difficulty of urban combat, the study concentrates on cases where combat operations were either conducted or planned.

The study examines five cases in which airpower, including land and carrier based aircraft as well as helicopters, was involved. The cases include the battle for Hue during the Vietnam War, the Israeli siege of Beirut in Lebanon, Operation Just Cause, the US invasion of Panama, UNISOM II in Somalia, and Operation Uphold Democracy in Haiti.

Mobility, in the form of strategic airlift and helicopter mobility, was generally the most important airpower contribution to urban, smaller-scale contingencies. Additionally, surface attack was decisive in some cases and helped to limit casualties and collateral damage in others. Other airpower missions, such as command, control, communications, intelligence, surveillance, reconnaissance, and information operations supported urban operations. Additionally, the case studies suggest that airpower can, under certain circumstances, coerce an adversary into complying with our demands.

The cases also show that any misuse of, or failure to fully exploit the capabilities of, airpower can lead to dire consequences such as higher casualties, increased collateral damage, and mission failure.

Capabilities that are critical to urban combat include precision surface attack in all weather conditions, limited lethality, and survivability. A gap in capability between vulnerable fixed-wing gunships and survivable fighter aircraft suggests a materiel solution is required to develop an aircraft with the capability of a gunship and the survivability of high-performance fighters. Finally, current doctrine, training, and wargaming must be improved to incorporate US airpower into all urban operations.

Chapter 1

Introduction

The first, the supreme, the most far-reaching act of judgment that the statesman and commander have to make is to establish by that test the kind of war on which they are embarking; neither mistaking it for, nor trying to turn it into, something that is alien to its nature.

—Carl Von Clausewitz

Urban warfare has come to the fore in the US military in recent years. A widespread realization that future military actions will probably involve combat in urban environments has fueled numerous efforts to increase military capability in this most challenging terrain. The Air Force is late to join the debate about the validity of and requirements for urban combat. To help fill the void, this study seeks to identify the roles and missions of airpower in urban operations and requirements for systems, doctrine, and training. More specifically, this study addresses the difficulty of urban operations in smaller-scale contingencies. These contingencies are characterized by less-than-vital-national interests and limited involvement with associated constraints on casualties and collateral damage. Therefore, urban, smaller-scale contingencies (USSC) represent one of the most difficult scenarios for military involvement and the application of airpower.

Why are Urban, Smaller Scale Contingencies Important?

From an airpower perspective, urban, smaller-scale contingencies are important to study for at least five reasons. First, due to demographic trends, urban conflicts are more likely today than ever. Second, smaller-scale conflicts are also more likely in the post-Cold-War world. Third, USSCs represent a unique and difficult challenge to the US military and, as the national security strategy and current trends suggest, the US military can expect to be involved in USSCs in the foreseeable future. Fourth, current doctrine and training, designed to meet Cold War era threats, does not adequately prepare the military to engage in smaller-scale contingencies. Fifth, the US Marine Corps and the US Army are intensively studying the doctrinal, training, and procurement requirements for future urban warfare. The US Air Force must not only anticipate sister-service requirements for airpower support, but must create a coherent, airpower-oriented strategy for developing doctrine, training, and force structure to meet the challenge of USSCs.

Demographic and Social Trends

The world is undergoing a dramatic population shift to urban areas. Estimates suggest that more than half of the world's population will live in urban areas within the next ten years, compared with about one third of the world's inhabitants living in urban areas in 1975.¹ This trend is most pronounced in Africa, where the proportion of the population living in urban areas will increase from 35 percent in 1990 to 58 percent in

¹ "The Urban Environment," *World Resources 1996-97: A Guide to the Global Environment*, 1997, n.p.; on-line, Internet, 21 February 1999, available from http://www.Wri.org/wr-96-97/ud_txt1.html.

2025. During the same period, urbanization is projected to increase in Asia from 30 percent to 53 percent, and in Latin America from 72 percent to 85 percent.²

The growth of urban populations is not limited to “megacities.” The number of megacities, defined as cities with populations in excess of 8 million, is projected to increase from just two in 1950 to 33, with 27 in the developing world, by 2015. Intermediate-sized cities, with populations between 1million and 10 million, however, account for over half of the world’s urban dwellers. The number of intermediate-sized cities are growing even faster than the number of megacities, from 270 in 1990 to 516 in 2015.³

Urban poverty accompanies the shift in population. While poverty has historically been associated with rural areas, the developing world’s population movement to urban areas has brought poverty to urban areas on an unprecedented scale. The World Bank estimates that half of the developing world’s absolute poor will live in urban areas by 2000, compared to about one quarter in 1988.⁴

Increasing populations of urban poor exacerbate both the actual and perceived disparity of wealth across the globe. Urban centers contain both the most affluent and most impoverished populations within the developing world.⁵ Intrastate economic tensions will therefore increase unless economic opportunities can be created for the

² Michael T. Childress and Paul A. McCarthy, *Implications for the US Army of Demographic Patterns in the Less Developed World*, RAND Report AD-A282 374 (Santa Monica, CA: RAND, 1994), v.

³ Ibid.

⁴ Ibid.

⁵ Ibid.

swelling urban populations. Similarly, the “perceived disparities of wealth... could also create tension and present political and moral challenges for governments.”⁶

The effects of increased urbanization suggest that a higher proportion of conflicts will take place within urbanized areas. As more of the world’s population moves to urban areas, it is reasonable to assume that more of those human interactions that cause conflict will occur there. Ethnic and religious conflicts are likely to be intensified by the increased population density. Also, the infrastructure within the developing world has a limited capability to support dramatic urban population growth. Therefore, shortages of economic opportunity, food, clean water, sanitation, and power will become more pronounced in developing areas, and lack of opportunity will fuel competition for resources.

International Political Considerations

Post-Cold War political trends provide evidence that American armed forces will increasingly have to engage in smaller-scale conflicts. The current lack of a peer competitor suggests that a major conventional war is unlikely for the foreseeable future. Currently, the Korean Peninsula and the Persian Gulf region present the only substantial threats of major regional conflict (MRC).⁷ While MRCs appear less likely with the end of the Cold War, the US military has been involved in smaller-scale operations in Panama, Bosnia, Somalia, Liberia, and Haiti in the last decade. These conflicts represent the break-up of the Soviet sphere, in the case of Bosnia, and a lack of stabilizing influence of the bipolar struggle, in the case of Somalia.

⁶ National Defense Panel, *Transforming Defense: National Security in the 21st century*, Washington, D.C.: Government Printing Office, 1997), 7.

⁷ Ibid., 23.

The end of the Cold War has eliminated some stabilizing factors and introduced others. Kenneth Waltz suggests that the bipolarity of the Cold War added stability. Specifically, he argues that the simple and organized competition between two superpowers created a level of conservatism that limited intervention and confrontation due to the overriding fear of escalation.⁸ America's self imposed limitations in Korea and Vietnam are examples of the dampening effect of the Cold War. In contrast, in a unipolar world the sole remaining superpower is free to act as a police force, if it is so inclined. Indeed, with a reduced threat of escalation, the United States, NATO, and the United Nations seem less inhibited about intervention in regional disputes and civil wars, as demonstrated in the United States-led NATO intervention into the former Yugoslavia.

On the other hand, the Cold War also drove global competition in a zero-sum game. Competition for influence in Asia, Africa, and Latin America led to proliferation of both Western and Eastern military equipment. The end of bipolar competition and associated political pressure and economic aid has left parts of the developing world with a crumbling infrastructure, uncertain political systems, and disproportionately large stockpiles of conventional weapons. Therefore, any unrest in the developing world is likely to be supported by the military remnants of the Cold War.

Likewise, the absence of global competition has reduced US interest and, therefore, economic and political support for the developing world. This decreased interest is due to the newly reduced strategic significance of lesser-developed states, since there is no longer a need to secure individual states from the threat of expanding global communism. Additionally, changing post-Cold War economic priorities have left many states,

⁸ Kenneth Waltz, *Theory of International Politics*, (New York: McGraw Hill, 1979), 174.

particularly in Africa, with very low economic importance to the West. Lacking superpower oversight and assistance, many states are inherently less stable.

The collapse of the Soviet Union left a power vacuum throughout much of Europe that remains to be filled. In 1990, Stephen Van Evera suggested that “a tour of the map of Eastern Europe reveals at least nine potential border disputes, and at least thirteen significant ethnic pockets that may either seek independence or be claimed by other countries.”⁹ The split between the Czech Republic and Slovakia represents a peaceful example of this prophecy. Hyper-nationalism, ethnic conflicts and territorial disputes are, however, considered to represent the greatest danger to Eastern Europe.¹⁰ The disintegration of Yugoslavia represents this more problematic example of instability following Communist domination. The power vacuum left by Tito’s death and the end of the Cold War created the conditions for nationalism and ethnocentric sentiments to ensure a violent dissolution a former state. Additionally, the Soviet Union contained 14 non-Russian republics that represent potential national conflicts.¹¹ Russia has invested much military and political capital in failed attempts to retain control over Chechnya. Similarly, states within Asia, Africa, and Latin America that relied heavily on Soviet economic support and political influence were left without the economic resources or political stability to endure difficult times.

⁹ Stephen Van Evera, “Primed for Peace: Europe after the Cold War,” *International Security*, Vol. 15, No. 3 (Winter 1990/91), 234.

¹⁰ Ibid., 234-236.

¹¹ Ibid., 234-235.

The Challenge

These global demographic and political trends set the stage for the increasing likelihood of US involvement in smaller-scale conflicts. They also make it increasingly likely that these conflicts will require operations in urban environments.

The combination of urban operations and smaller-scale contingencies creates a synergistic effect to complicate military operations. The crucial element that defines a USSC is the complex political climate that results from its small-scale and urban dimensions. Smaller-scale contingencies typically involve less-than-vital-national interests. Smaller-scale conflicts normally involve important or humanitarian national interests. Important interests “do not affect our national survival, but do significantly affect our national well-being and the character of the world in which we live,” while humanitarian interests are self-explanatory.¹²

Along with limited national interests come limitations on the use of force. The implications for the military are significant. When the mission is to improve the well being of the local population there is an obvious requirement to kill and maim as few of them as necessary. Additionally, the continual presence of the international press creates a climate in which civilian suffering damages the image of the US and its military. Strict rules of engagement (ROEs) normally accompany SSCs in order to minimize collateral damage. Limiting noncombatant casualties not only serves to protect the image of the US and the military, but helps to set the conditions for post-hostilities recovery.

Recent US military successes such as Operation Just Cause in Panama and Operation Desert Storm have created high expectations of military success with extremely limited

¹² Secretary of Defense William S. Cohen, “Report of the Quadrennial Defense Review,” May 1997, n.p.; on-line, Internet, 22 February 1999, available from <http://www.defenselink.mil/pubs/qdr/>

American casualties. These expectations combine with the limited national interest involved with smaller-scale contingencies fuel a powerful aversion to casualties. This makes operations that suffer even limited casualties, such as operations in Somalia, vulnerable to political failure in the face of military success.

The introduction of the urban environment greatly increases the difficulty of limiting collateral damage and US casualties. Because urban areas are dense with both people and property, it is inherently difficult to limit collateral damage. Moreover, the complexity of urban warfare suggests that the act of limiting collateral damage will tend to increase the likelihood of US casualties. Therefore, achieving both limited collateral damage and limited casualties is particularly difficult.

These inherent challenges suggest that the best method for dealing with USSCs is to avoid involving the US military as a combat force. Although not always possible, this can be accomplished by preemptively dealing with the situations that cause conflict. The Berlin airlift is an example of the use of airpower to diffuse a potentially volatile situation. Similarly, America's robust capacity for disaster relief and peace keeping can, in certain cases, obviate the need for military intervention in a combat capacity. If preemptive intervention fails, or is not an acceptable option, coercive diplomacy including the use of military force should be considered. However, the coercive use of military force requires a commitment to use force should coercion fail and, therefore, should be used only when significant national interests are at stake.

In summary, the combination of smaller-scale contingencies and urban environments offers a uniquely challenging mission for the US military in general and airpower in particular.

Is the US military adequately prepared for USSCs?

The US military has concentrated on large-scale maneuver warfare since the Second World War. This concentration on MRCs was predicated on the most dangerous scenarios, namely a Soviet invasion of Western Europe, North Korean aggression, and instability in the Persian Gulf region. While the second and third scenarios still represent a dangerous threat to US national interests, USSCs are far more likely today and for the foreseeable future. Also, both major regional contingencies assume an initial phase of halting aggression, followed by a heavy conventional build up, and a counteroffensive to secure national interests. This Gulf War construct sees urban areas as obstacles to maneuver warfare, with decisive combat occurring in relatively open areas. The increased likelihood of urban conflict and even US intervention into those conflicts portends a serious challenge for the US military. Moreover, the US national security strategy

presumes the United States will continue to exercise strong leadership in the international community, using all dimensions of its influence to shape the international security environment. This is particularly important to ensuring peace and stability in regions where the United States has vital or important interests and to broadening the community of free-market democracies.¹³

US doctrine for urban warfare is similarly predicated on MRCs and, at best, marginally prepares the US military to engage in USSCs.¹⁴ Doctrine based on MRCs

¹³ Cohen.

¹⁴ The US military generally views urban combat through the lens of heavy, conventional war. The US Army doctrine for military operations on urbanized terrain (MOUT), FM 90-10, clearly describes a Soviet-NATO conflict. The most current version of FM 90-10, last published in 1979, centers on the proposition that urban areas should be avoided. Urban conflicts that could not be avoided were viewed in the context of the Second World War. That is, cities and urban areas represented a complex and dangerous battlespace in

does not adequately anticipate the current trend in rules of engagement that require minimum collateral damage. FM 90-10 discusses the commander's desire to protect civilian lives, but in urban warfare this desire is subordinate to the goal of taking or holding the city or town as a terrain objective in a large-scale war.¹⁵ Understandably, Cold War plans for the conventional defense of Western Europe, or even current plans for the defense of South Korea, subordinated the protection of civilian life and property to the greater good of winning the war against a capable adversary bent on conquest.

Clearly, MRC assumptions do not anticipate the casualty intolerance associated with smaller-scale contingencies. An underlying assumption for an MRC is that vital US national interests are at stake. This assumption anticipates a Second-World-War level of national commitment, intensity, destruction, and casualties. Small scale contingencies have not represented vital national interests, intense national commitment, or a willingness to absorb even modest casualties. This is most dramatically illustrated by US operations in Somalia, where the cost of 18 dead Americans apparently exceeded the level of national commitment. Following the October 1993 battle, US forces were withdrawn without achieving national objectives.

The MRC focus of urban-oriented doctrine is important because it underpins current US doctrine, training, equipment, and capabilities that do not adequately address USSCs. The Air Force is no exception.

which a conventional enemy is either attacking or defending. The goal in urban combat was to seize or hold terrain as part of a larger terrain-based strategy.

¹⁵ See Field Manual 90-10, Military Operations on Urbanized Terrain (MOUT), 15 August 1979.

Framing the Debate

The focus of this paper is the roles and missions of airpower in urban, smaller-scale contingencies (USSCs). In order to identify demonstrated and potential airpower roles and missions, the following chapters develop five historical case studies that are representative of the sorts of USSCs that may involve the US in the future. All of the cases involved lower-level national interests associated with smaller-scale contingencies, and a desire to limit collateral damage and American casualties. The cases selected for this study are the battle for Hue during the Tet offensive in Vietnam, the Siege of Beirut, Operation Just Cause in Panama, UNISOM II in Somalia, and Operation Uphold Democracy in Haiti. These examples span a quarter century and involve smaller-scale contingencies where the public was, by current standards, fairly tolerant of collateral damage and casualties—Hue and Beirut—as well as examples where they were very intolerant—UNISOM II and Uphold Democracy.

Urban conflicts in total or near-total war do not fit the construct of USSCs because of the significant difference in the level of violence, acceptability of collateral damage, and casualties. Similarly, smaller-scale contingencies conducted by states that do not maintain the US standard of political constraints have little to teach military planners beyond some tactical lessons. Therefore, some potential case studies of urban warfare, such as Stalingrad or Grozny, are not included in this study because the political constraints faced by the combatants were minimal compared to those typical of US involvement in smaller-scale contingencies.

Examples of USSCs, where airpower was employed as the sole or primary component of military power, were also considered. These examples include the Berlin

Airlift, where airpower dissipated tensions that could have led to a major contingency, and Operation El Dorado Canyon, the US strike on Libya in 1986, where land- and carrier-based airpower was the sole instrument of military power used in a USSC.¹⁶ Similarly, many USSCs, such as humanitarian relief, do not include combat operations. While all of these contingencies yield valid examples for the roles and missions of airpower in USSCs, this work concentrates on those contingencies that involve urban combat involving ground forces.

¹⁶ Tim Zimmermann, “The American Bombing of Libya: A Success for Coercive Diplomacy?” *Survival* 29 (May/June 1987).

Chapter 2

Hue, 1968

The worst policy is to attack cities. Attack cities only when there is no alternative.

—Sun Tzu

The battle for Hue represents an extreme case of an urban, smaller-scale contingency because the acceptable levels of collateral damage and American casualties were, by modern standards, very high. Still, the battle for Hue can be considered a smaller-scale contingency within the larger framework of a limited war where vital national interests were not at stake. Also, because Hue was a friendly city, US and South Vietnamese forces did seek to limit collateral damage.

In Hue, US and coalition forces were facing a conventional military force that was both capable and highly motivated, with orders to hold the city for at least seven days.¹⁷ The objective of American and South Vietnamese forces was to destroy Communist forces within the city. Protecting civilians and infrastructure was a secondary concern, as indicated by the heavy use of artillery, naval gunfire, and airstrikes that were relatively inaccurate by current standards.

Background

¹⁷ “Modern Urban Battle Analysis and Observations (Part III),” *MAWTS-1 Aviation Combat Element (ACE) MOUT Manual*, no date, n.p.; on-line, Internet, 25 February 1999, available from <http://www.geocities.com/Pentagon/6453/battles.html>.

The Tet Offensive of January 1968 was a coordinated offensive by both North Vietnamese Army (NVA) regular forces and Viet Cong (VC) insurgents all across South Vietnam. American and South Vietnamese forces were caught off guard, but quickly regained the initiative and defeated the offensive in a matter of weeks. The battle for Hue City, although only one of dozens of engagements, is generally considered to be the most fiercely fought battle of the Tet Offensive.



Source: CIA, Base 802035 (R00016) 9-92

Figure 1. Vietnam

Hue, Vietnam's ancient imperial capital, was a city of 100,000, situated about 100 kilometers south of the 17th parallel and only 10 kilometers from the South China Sea,

placing it within range of naval gunfire.¹⁸ The walled city, or Citadel, was roughly square and just over two kilometers on a side. Outside the walls the citadel was surrounded by a moat on three sides and the Perfume River to the southeast.¹⁹ Hue was a French copy of Peking with heavy masonry construction combining colonial French and Chinese architecture; there was a small airstrip within the city, but it immediately fell into NVA hands. Beyond the walled city was the more modern New City, where about a third of the inhabitants lived. Throughout the Vietnam conflict Hue had been treated as an open city by both sides and was not fortified or reinforced.

The battle for Hue began with a North Vietnamese Army (NVA) rocket and mortar attack against the city in the early hours of 31 January 1968, the second day of the Tet offensive. In the previous weeks, the NVA had infiltrated two regiments into the city. These forces joined Viet Cong forces within the walls of the Citadel. By dawn, NVA and VC forces controlled almost all of the city, with the exception of the 1st Division, Army of the Republic of Vietnam (ARVN), headquarters. The closest American combat force was the under-strength US Marines 5th Brigade, 12 kilometers to the south at Phu Bai.²⁰ The Marines raced toward Hue and initially met resistance at the outskirts of the city. Because all of South Vietnam was involved in the Tet offensive, the Marines attempting to liberate Hue could not expect to receive significant support from forces or aircraft engaged elsewhere.

¹⁸ Skaidrite Maliks, *Research Notes on Hue as a Traditional City of Vietnam* (Washington, DC: American University, 1964), 1.

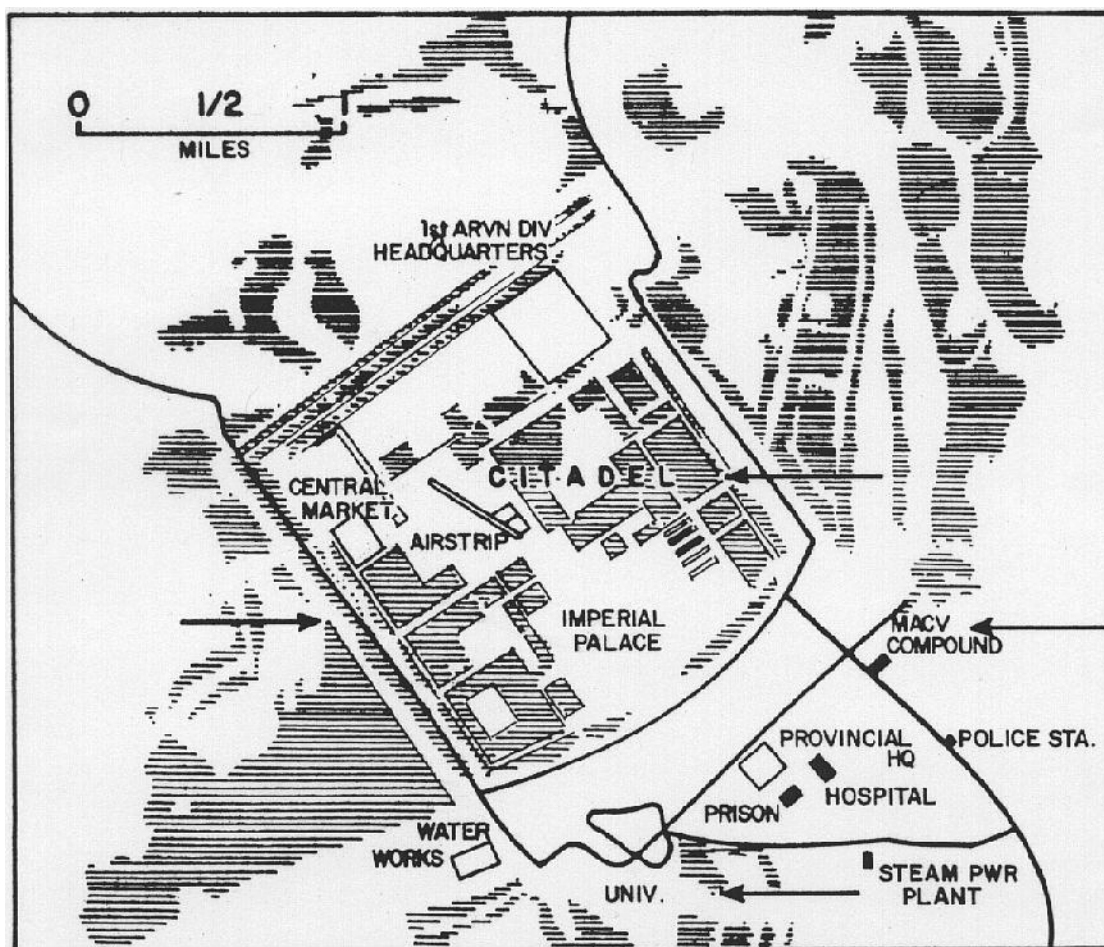
¹⁹ Eric Hammel, *Fire in the Streets: The Battle for Hue, Tet 1968*, (Chicago: Contemporary Books, 1991), xvii.

²⁰ Brigadier General Edwin H. Simmons, "The Battle for Hue." *Marine Corps Wargaming and Assessment Center's Read Ahead Package-Urban Warrior Wargame One*, no date, 5; on-line, Internet, 10 March 1999, available from <http://www.geocities.com/pentagon/6453/hue.html>.

Fortunately, the fortress-like layout of Hue made the city easy to isolate from reinforcing NVA forces. Within days, elements of the US 1st Air Cavalry Division were able to seal off the city and deny the NVA forces occupying it either reinforcements or resupply. Significantly, isolating the Citadel denied the planned reinforcement of three NVA regiments, which would have essentially doubled the enemy forces within the city.²¹ Partially evening the odds, the NVA blew up the An Cuu bridge across the Phu Cam canal on Highway 1 on 3 February, effectively preventing overland approach for US and South Vietnamese forces. All additional resupply and reinforcements had to be brought in by river or helicopter.²²

²¹ Simmons.

²² Hammel, 221.



Source: Major A. W. Thompson and C. William Thorndale, *Air Response to the Tet Offensive: 30 January-29 February 1968*, Project CHECO Southeast Asia Report DOTEK-68-48 (Honolulu, HA: HQ PACAF, 1968)

Figure 2. Hue, South Vietnam

American and Vietnamese Marines counterattacked into the city on 4 February. Supported by tanks, heavy artillery, naval gunfire, and aircraft, the US and South Vietnamese forces had overwhelming firepower.²³ The available firepower did not, however, mean that this would be an easy fight. The NVA and VC were in prepared defensive positions within the heavy masonry construction of Hue and were well armed despite their isolation. Further complicating the American position, the rainy season in

²³ Simmons.

Vietnam brought fog, rain, and low ceilings that plagued US and ARVN forces throughout the battle—so much so that close air support (CAS) was virtually excluded from the fight.²⁴

Hue city was declared secure on 26 February, but mopping up operations within the Citadel continued until 2 March.²⁵ In what is usually described as the most intense battle in the Vietnam conflict, US Marines suffered 147 killed and 857 wounded; Vietnamese Marines lost 384 killed and 1,800 wounded. Estimates of NVA and VC dead were 5,113 with an additional 89 captured.²⁶ The bulk of the battle consisted of bloody, violent, house-to-house fighting, in which Marines used recoilless rifles, tank fire, and explosives to subdue the defenders.

The toll on Hue itself was devastating. Estimates suggest that forty percent of the city was destroyed, mostly by artillery, naval gunfire, and airstrikes supporting the advancing Marines. At least 3,000 civilian non-combatants were dead or missing, in addition to an estimated 2,800 executed by Communist death squads.²⁷

American cruisers and destroyers fired over 5,000 rounds of 5-, 6-, and 8-inch projectiles into the city. Marines expended over 18,000 rounds of artillery, preferring the 8-inch howitzer. The bulk of close air support was provided by Marine aircraft, though CAS was severely limited by weather and some effort to limit collateral damage, and consisted of 113 sorties dropping nearly 300,000 pounds of ordnance, including 250-

²⁴ Ibid.

²⁵ Hammel, 353.

²⁶ Keith W. Nolan, *Battle for Hue: Tet, 1968*, (Novato, CA: Presidio Press, 1983), 184.

²⁷ Simmons.

pound bombs and 500-pound napalm canisters.²⁸ The US Air Force “flew some 90 strike sorties in support of operations at Hue between 2 and 27 February.”²⁹

The Role of Airpower

The battle of Hue gave airpower no opportunity to independently achieve strategic, operational, or even tactical objectives. At the operational level, there was no effort to coerce the Communist forces to withdraw. When the 3rd Brigade of the 1st Air Cavalry Division sealed off the city from the north and west, it was clear that the US intended to isolate and destroy all Communist forces within Hue in a brute-force effort to produce casualties. Not wanting to completely destroy the city or kill its inhabitants, the US and South Vietnamese forces were obliged to retake the city in house-to-house fighting. Therefore, airpower was immediately cast in the role of tactically supporting the ground forces.

Airpower Missions

Airlift

After the An Cuu bridge was destroyed, American and Vietnamese forces were forced to use landing craft to ferry heavy equipment up the Perfume River and canals. The few available helicopters were pressed into service transporting casualties, personnel, and vital supplies. Marine helicopters flew 823 sorties, evacuating 977 casualties,

²⁸ Ibid.

²⁹ Major A. W. Thompson and C. William Thorndale, *Air Response to the Tet Offensive: 30 January-29 February 1968*, Project CHECO Southeast Asia Report DOTEK-68-48 (Honolulu, HA: HQ PACAF, 1968), 34.

transporting 1,672 troops, and delivering over 1,000,000 pounds of cargo with the loss of only one helicopter.³⁰

Beyond the confines of Hue, intratheater airlift maintained a continuous flow of personnel and supplies. Casualties removed from Hue by helicopter were flown to hospitals from the nearby Hue-Phu Bai airbase, which also provided a staging base for O-1 Bird Dog observation aircraft and CH-46 helicopters. Reinforcements and supplies for the battle were also brought into Hue-Phu Bai.³¹ The close proximity of an airfield was essential for evacuating casualties, and delivering reinforcements and supplies.

Surface Attack

Low ceilings, fog, and the tight confines of the Citadel limited the direct contribution of airpower to the battle. In addition, there were several tall radio towers in the vicinity of Hue. The towers, supported by guy wires, sometimes extended up through the low overcast and represented a potentially lethal hazard to aircraft. Still, US Marine A-4 Skyhawk and Vietnamese Air Force A-1 Skyraider attack aircraft flew in the extremely difficult conditions to support the operation. Although the A-4s had rudimentary radar-bombing capability, the system was not nearly accurate enough for operations within the confines of Hue. Pilots waited for small breaks in the weather or pushed below the clouds. Often operating below previously accepted minimum altitudes, sometimes as low as 50 feet, pilots had minimal time to acquire, identify, and attack targets within the confines of the Citadel.³²

³⁰ Simmons.

³¹ Hammel, 79, 342.

³² Ibid., 59, 96, 240, 275, 342-346.

Air attacks were directed by forward air controllers (FAC) in O-1 Bird Dog observation aircraft. The O-1s could operate below the cloud cover and were slow enough to allow a relatively accurate assessment of the situation. When there was a break in the weather, the FACs could notify the attack pilots and talk them onto targets. Unfortunately, the O-1s were vulnerable to groundfire, particularly while operating at extremely low altitudes and low airspeeds. Still, by providing coordination between Marines requesting CAS and attack pilots above the weather, the O-1s proved indispensable to the mission of surface attack.

Outside the city, fixed-wing and rotary-wing aircraft supported the 1st Air Cavalry's mission to seal off the city. Fighter aircraft could more easily provide CAS outside the city because requirements for accuracy were less stringent. Organic helicopter assets flew numerous fire-support missions supporting the ground forces.

Airpower Lessons

Capabilities

The first lesson airpower professionals should take from the battle for Hue was that weather can severely limit the capabilities and reduce the effectiveness of their craft. "The generals agreed that it could have been much shorter if the use of supporting arms had not been inhibited by the vile weather, lack of observation, and the policy of sparing the city as much material damage as possible."³³ At the time, the US possessed virtually no capability to deliver ordnance accurately through cloud cover or even obscuring smoke and haze. This situation has only been partially rectified in the subsequent three

³³ Simmons.

decades. Clearly, we may again face a situation where airpower is tasked to support urban operations in similar weather conditions.

Even without the weather problems, airpower's contribution to the fight was severely limited because the fighter aircraft of the day could not deliver bombs with sufficient accuracy to allow close proximity support without the risk of fratricide. Although fixed-wing gunships could have delivered accurate fire within meters of friendly forces, the available AC-47s, AC-119s, and AC-130As had little or no capability to perform fire support missions in the prevailing weather conditions. Additionally, the most heavily armed gunship at that time, the AC-130A, had twin 40mm cannons as its largest weapon. While the weapon system could have been useful, particularly during night engagements, the 40mm did not offer enough firepower to penetrate heavy masonry construction. Even metal or wooden roofs would have severely limited the weapon's capability because the former anti-aircraft gun fired high explosive projectiles designed to detonate on aircraft skin. The super-quick fuzes caused the projectiles to detonate on contact and thus severely limited penetration. Marines noted that even the M-41 tank's 76mm main gun lacked the capability to penetrate many structures.³⁴ Clearly heavier ordnance was needed.

On the other hand, Hue also provided evidence that bombing with even relatively small 250-pound bombs caused enormous collateral damage. An estimated ten thousand buildings were either totally destroyed or heavily damaged, mostly by artillery, naval gunfire, and airstrikes, resulting in heavy civilian casualties.³⁵ Further, the heavy construction of Hue caused ricochets of shell and bomb fragments. Therefore, large

³⁴ Hammel, 339.

bombs could not be used in extremely close proximity to friendly forces without the risk of fratricide. However, if ordnance could have been delivered with sufficient accuracy to get inside a specific building, aircraft could have effectively used medium-sized ordnance to clear buildings without significant risk to friendly forces. The heavy walls would have contained the blast. For optimal contributions to the fight, pilots needed a penetrating device more capable than a tank gun but smaller than a 250-pound bomb.

Nonlethal ordnance was used liberally throughout the battle in the form of tear gas. More advanced non-lethal weapons could have further supported the fight.

Operational Missions/ Tactical Tasks

Another clear lesson from Hue was that isolating an urban battlefield is essential to the success of combat operations. After studying 22 urban battles from World War II until today, the Marine Corps noted that “the attacker won all the battles where the defender was totally isolated. Even partial cut-off of the defenders resulted in attackers enjoying a success rate of 80 percent. Conversely, attackers won only 50 percent of the battles in which defenders were not significantly cut off, and that victory came at great cost.”³⁶ Airpower can play an important part in the operational objective of isolating an urban area. In the case of Hue, the CAS missions might have been more beneficial as interdiction missions to help isolate the city. In this case adverse weather conditions and limited accuracy would have been less problematic. In similar situations in the future, air components could be tasked to interdict reinforcements, thereby freeing ground forces for

³⁵ Nolan, 184.

³⁶ “Modern Urban Battles.” Excerpt summary from the *MAWTS-1 Aviation Combat Element (ACE) MOUT Manual*, no date, n.p. On-line, Internet, 25 February 1999. Available from <http://www.geocities.com/Pentagon/6453/battles.html>.

combat in the city. Had sufficient airpower been available and tasked with isolating Hue, the 5th Brigade of the 1st Air Cavalry Division, or most of it, could instead have participated in the assault on the Citadel, essentially doubling American combat power. As it turned out, the cavalry brigade entered the city only at the end of the battle.

Collateral Damage

Foul weather and lack of availability of attack helicopters drove a heavy use of artillery and naval gunfire in Hue City. The limited airstrikes were, by modern standards, very inaccurate. The result was extensive collateral damage. With an estimated forty percent of the city destroyed or heavily damaged, the battle for Hue remains an extreme example of a smaller-scale contingency. It is unlikely that this level of collateral damage or associated casualties will be tolerated again in anything short of a major regional conflict. Still, Hue demonstrates that significant firepower may be necessary to evict a capable, motivated defense from an urban setting. Airpower practitioners should view Hue in the context of a difficult military mission fought without viable options to reduce collateral damage or friendly casualties. In future conflicts of this type the US should be prepared to use necessary violence to accomplish the mission without inflicting the level of damage seen at Hue or accepting the level of casualties experienced by ground forces.

Chapter 3

The Siege of Beirut, 1982

To a surrounded enemy you must leave a way of escape.

—Sun Tzu

The 1982 Siege of Beirut provides a rare example of modern siege warfare as a form of urban operations in smaller-scale contingencies. Rather than invading the city and risk the political cost of military and civilian casualties and collateral damage, Israel chose to besiege the city in an effort to coerce the PLO to depart Lebanon. The siege ended with a US-brokered agreement that achieved Israel's political goal without the enormous cost of house-to-house fighting normally associated with urban warfare.

Background

The Israeli invasion of Lebanon was intended to eliminate Palestinian Liberation Organization (PLO) forces that threatened northern Israel. The PLO was forced into Lebanon after unsuccessfully fighting with King Hussein's forces for control of Jordan in 1969 and 1970. The PLO's occupation of West Beirut and most of southern Lebanon caused a civil war in Lebanon that, in turn, provoked both Israeli and Syrian intervention. The 1978 peace treaty between Israel and Egypt focused the Arab-Israeli conflict on Israel's northern border with Lebanon. The PLO, occupying southern Lebanon, was in a position to operate directly against Israel. Starting in 1978, the PLO conducted cross-

border raids and rocket and artillery attacks against northern Israeli settlements. Conflict along the Lebanon-Israel border continued into the early 1980s, with Israel launching a limited invasion of southern Lebanon, Operation Litani, in March 1978. Pressure from the United States and the international community forced Israel to withdraw and allowed the PLO to return to southern Lebanon.³⁷

Following Operation Litani, Israel began planning a major invasion of Lebanon to drive the PLO away from the Israeli border permanently. Despite the installation of a United Nations (UN) force in southern Lebanon, the PLO continued to attack Israel, conducting approximately 1,200 rocket attacks against 26 northern Israeli towns in May and June of 1981. Also in 1981, Syrian forces invaded portions of the Beka'a Valley in southern Lebanon, giving Syria control of the strategically important Beirut-Damascus Road. Israel retaliated with air and border raids on PLO camps in southern Lebanon. The conflict escalated through June 1982, despite American efforts to broker a cease-fire. In June, the Israeli cabinet approved a limited invasion of southern Lebanon, dubbed Operation Peace for Galilee, in order to create a 40-kilometer buffer zone between PLO forces and northern Israel.³⁸

Operations

Operation Peace for Galilee began with multiple objectives. Although the Israeli cabinet had approved only the establishment of a 40-kilometer buffer zone, the Minister of Defense and Chief of Staff had two additional objectives in mind. One was a drive to

³⁷ Anthony H. Cordesman, *The Arab-Israeli Military Balance and the Art of Operations* (Washington, DC: American Enterprise Institute, 1987), 58.

³⁸ Ronald D McLaurin, *The Battle of Beirut, 1982* (Aberdeen Proving Ground, Maryland: Technical Memorandum, Human Engineering Laboratory, 1986), 12, 13.

Beirut to destroy the considerable PLO military presence in the area, and the other involved a major war with both the PLO and Syria, with the desired end state of a Christian-dominated government in Lebanon that would be friendly to Israel.³⁹

The invasion began on 6 June 1982 with a three-pronged attack into southern Lebanon intended to gain its objectives in just 72 hours. The western attack involved some 220 tanks and 22,000 men. The central thrust was conducted by a three-division corps, the Beka'a Group, with about 800 tanks and 35,000 men. The Northern Command, by far the largest force, included about 1,250 tanks, 1,500 armored personnel carriers (APC) and 76,000 troops. Israeli commandos joined the fight with an amphibious landing in the Awali area. The Israeli Air Force (IAF) heavily supported the ground effort.⁴⁰

³⁹ Cordesman, , 61.

⁴⁰ Ibid., 62, 65.



Source: CIA, Base 505043 (544600) 2-82

Figure 3. Lebanon

The Israeli forces were opposed by the Syrian 1st Tank Division, an independent mechanized brigade, with 320 tanks, 300 APCs, 16 surface-to-air missile (SAM) batteries, and some 23,000 men. In addition to Syrian forces, the PLO had eight armored elements throughout southern Lebanon with about 300 tanks, 150 APCs, 300 anti-tank missiles, 200 antiaircraft guns and 300 artillery pieces. But because of earlier Israeli strikes into southern Lebanon, the PLO had adopted a policy of maintaining only a small

portion of their forces deployed in the field. Much of their combat power was marshaled in Beirut.⁴¹

The Israelis made rapid progress toward their initial objectives, bypassing refugee camps and cities on their way north. As the Israeli Defense Forces (IDF) pressed north, PLO forces pulled back into Beirut. The IDF encountered heavy Syrian resistance on 8 June and decided to move rapidly to the Beirut-Damascus Road, well beyond the initial 40-kilometer objective.⁴²

Syria tried to limit its involvement in the fight, but moved three more SAM batteries into Lebanon on 7 June. On 9 June, the IDF attacked 19 major SAM batteries in the Beka'a Valley, destroying 17, along with several ZSU 23-4 radar-directed antiaircraft guns. A massive aerial battle took place between the IAF and the Syrian Air Force in which the IAF shot down 29 MiGs without losing an aircraft.⁴³

As the IDF approached the Beirut-Damascus Road they encountered heavy resistance from the Syrian 1st Tank Division and the independent mechanized brigade, as well as reinforcements in the form of the 3rd Tank Division. The IAF continued to down Syrian aircraft, amounting to 83 kills by 12 June. With the IDF advance halted short of the Beirut-Damascus Road, Israel declared a unilateral cease-fire at 0900 on 12 June.⁴⁴

The cease-fire broke down the next day with heavy fighting along the Beirut-Damascus Road. Israeli forces moved into the southern outskirts of Beirut against sparse resistance. The IDF decided to lay siege to Beirut rather than occupy it, despite the lack

⁴¹ Ibid., 62-63.

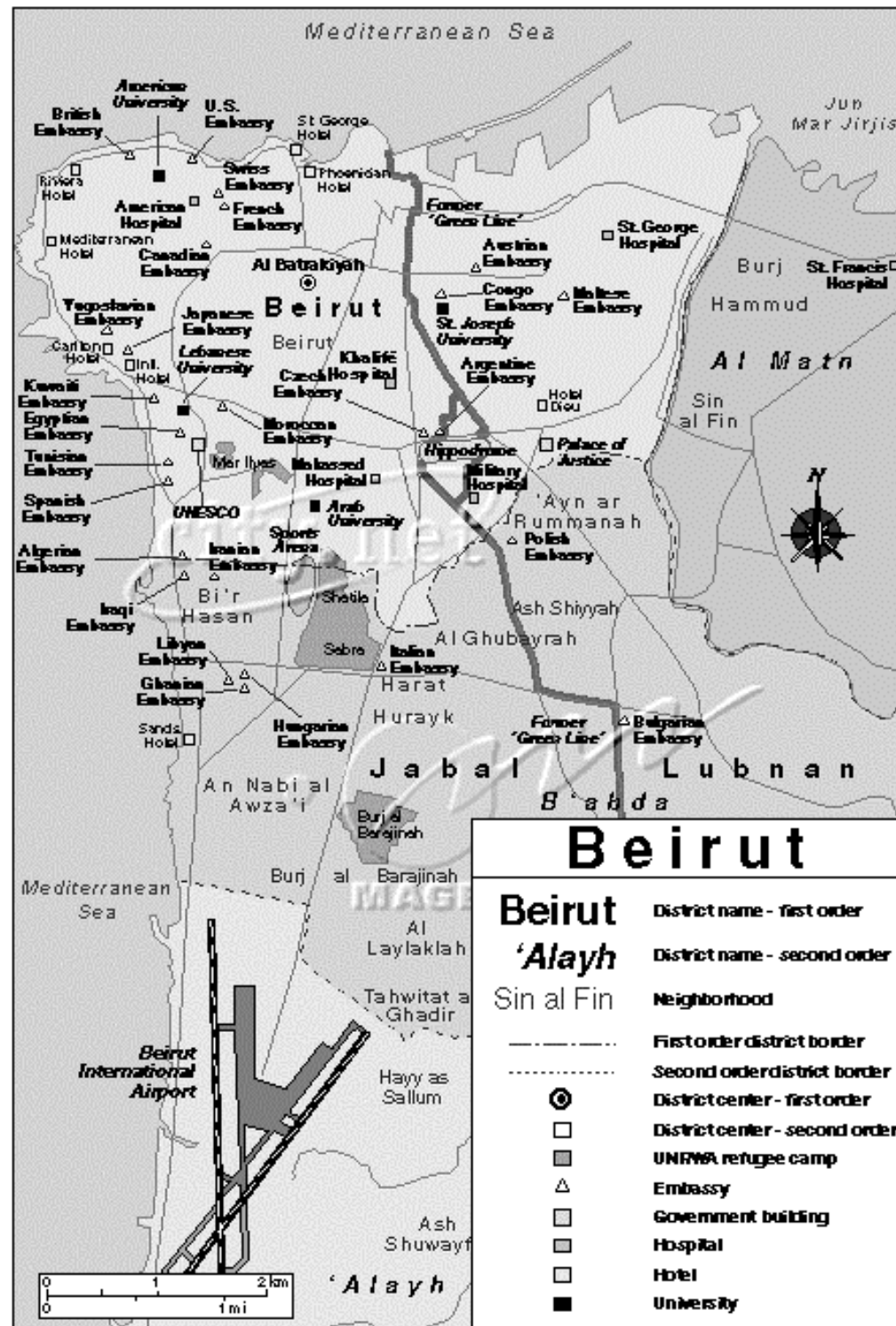
⁴² Ibid., 66-67.

⁴³ Ibid., 68-69.

⁴⁴ Ibid., 70-71.

of any organized resistance within the city. This decision was later criticized, and Beirut was not completely cut off. Syrian forces controlled approaches from the northwest along the Beirut-Damascus Road. Within days, the PLO organized and strengthened its defenses in West Beirut. In continued fighting, the IDF managed to seize control of the Beirut-Damascus Road, effectively encircling the city. Israel announced another cease-fire on 25 June with over 12,000 PLO soldiers, 2,300 Syrians, and an estimated 350,000 to 500,000 civilians trapped in the city.⁴⁵

⁴⁵ Cordesman, 71-73. Also, see Richard A. Gabriel, *Operation Peace for Galilee: The Israeli-PLO War in Lebanon*, (New York: Hill and Wang, 1984), 139.



Source: Magellan Geographix, n.p.; on line, Internet, available from <http://city.net/img/tra/mag/map/beirut.gif>

Figure 4. Beirut, Lebanon

The Siege of Beirut

The siege of Beirut officially began on 1 July 1982.⁴⁶ With Beirut cut off, an American envoy, Philip Habib, attempted to negotiate a PLO withdrawal. During the negotiations, the IDF began an organized siege with an artillery duel that broke the cease-fire on 3 July. The Israelis hoped Syrian forces would evacuate the city and offered safe escape routes for civilians and maintained them throughout the siege.⁴⁷

The IDF siege strategy was partially motivated by limited preparation for urban combat. The IDF lacked substantial infantry forces, relied heavily on armor and airpower for open-desert warfare, and had conducted very little urban training. In any case, with the PLO consolidated in defensive positions in West Beirut, the anticipated IDF and civilian casualties from a direct assault appeared prohibitive.⁴⁸

In order to minimize Israeli casualties, Israel sought a proxy to bear the human cost of removing the PLO from Beirut. To that end, Israel conducted high-level negotiations with the Christian Phalangists Militia in an attempt to enlist their support in conducting urban warfare inside Beirut. The Phalangists, concerned that direct attacks against the PLO would further alienate the Muslim and Druse militias within Beirut, refused to participate in the operation. They did eventually man checkpoints around the city, allowing the IDF to maintain a background posture.⁴⁹

⁴⁶ Richard A. Gabriel, *Operation Peace for Galilee: The Israeli-PLO War in Lebanon*, (New York: Hill and Wang, 1984), 139.

⁴⁷ McLaurin, 44.

⁴⁸ Eric F. McMillin, *The IDF, the PLO and Urban Warfare: Lebanon 1982* (Chicago: The University of Chicago Center for Middle Eastern Studies, 1993), 61.

⁴⁹ Gabriel, 129-132, 142.

The IDF therefore opted for a coercive strategy to compel the Syrians and PLO to leave the city. In order to achieve their goal, the IDF conducted a multifaceted information operation that included both political and military initiatives. The PLO understood that they were in a tactically defensible position and, with an estimated six months worth of supplies, could hold out in an effort to obtain their strategic goal of political recognition. The PLO also counted on the prospect of civilian casualties to produce international pressure against the Israelis, and conducted a propaganda campaign to that effect. Therefore, the siege of Beirut became a coercive campaign with neither side having a brute-force option for achieving its political goals⁵⁰

Israeli psychological tactics allowed civilians to leave the city and made it clear that the PLO could also depart, rather than fight to the last man. Israel also reserved the option to use “disproportionate force” against the PLO as an indication that they were not willing to let the possibility of civilian casualties prevent military victory. Israeli efforts included leaflet drops, mock air attacks, the use of loudspeakers, and the judicious use of pressure from ground-forces, artillery, naval gunfire, and airstrikes. All sought to minimize Israeli and civilian casualties—and the associated political ramifications—while convincing the PLO that they must either depart the city or face destruction.⁵¹

Upon breaking the cease-fire on 3 July, the IDF moved limited ground forces into the city to seize the Green Line that had divided East and West Beirut since the end of the Lebanese civil war in 1976. Israeli tanks, artillery, and naval guns pounded PLO positions in the southern outskirts just northeast of the International Airport, and Israeli infantry moved toward PLO forces from the south. The IDF was careful to advance very

⁵⁰ McLaurin, 45.

slowly, exploiting the protection of armor and direct fire weapons. This tactic was designed to maintain pressure on the PLO while limiting IDF casualties. The IAF flew mock attacks against refugee camps and dropped leaflets to maintain pressure on both the military and civilian population.⁵² On 4 July, the Israelis cut off all water and power, and stopped fuel and food supplies to Beirut. Only medical supplies were allowed to enter the city. This situation continued for three days, until the Reagan administration pressured the Israelis into restoring electricity and water to Beirut.⁵³

The PLO struck back in earnest on 9 July with a barrage by heavy artillery and Katyusha rockets. The Israelis responded with captured Katyushas, artillery, and naval gunfire. Areas around the airport were hit very hard with little concern for collateral damage. On 13 July, a cease-fire went into effect and allowed both the Israelis and the PLO to improve their positions. On 21 July, the cease-fire was broken, this time by the PLO launching three attacks against IDF positions. Israeli and Syrian forces within the city managed to avoid any major conflict, but the Syrians allowed PLO forces to infiltrate through their lines to attack Israeli positions.⁵⁴

The IDF responded to the attacks with disproportionate force in the form of a major attack on 22 July. The Israelis were careful to frame the attack as a retaliation rather than the final assault on Beirut. For the first time during the siege, IAF aircraft attacked targets within the city. Airstrikes were preceded by mock attacks and flare and leaflet drops, just as before, but after about 30 minutes the fighters attacked, firing precision-

⁵¹ Gabriel, 137-139, 146.

⁵² Ibid., 141-142.

⁵³ Ibid., 142-143.

⁵⁴ Ibid., 137, 145-146.

guided Maverick missiles. Tanks, artillery, and naval guns delivered an intense barrage. All major PLO camps in the southern part of the city were struck. Also, for the first time during the siege, Syrian positions along the Beirut-Damascus Road, were attacked. Still, the Syrians allowed the PLO freedom of movement through their lines.⁵⁵

In response to the Israeli attack, the Syrians brought three SAM batteries into the Beka'a Valley. The next day, 24 July, the IAF destroyed all three batteries. Attacks against PLO positions just north of the airport continued. However, attacks moved farther north, toward the heart of Beirut. The IAF hit a residential district for the first time on 27 July, killing or wounding some 350 civilians. As the attack entered its seventh straight day, fires broke out around the airport and IDF infantry advanced slowly toward PLO positions.⁵⁶

Reinforcing the political nature of the siege, PLO leader Yasir Arafat toured the city on 29 July, along with selected members of the international press. His visit was designed to sustain morale and demonstrate to the world that the PLO was both capable of and willing to continue resisting the siege indefinitely. Israeli intelligence estimates agreed that the PLO could continue indefinitely.⁵⁷

Meanwhile, the Arab League endorsed a peace proposal that would allow the PLO to withdraw from Beirut and move to other Arab countries. The withdrawal would be protected by an international force. The PLO continued to demand political recognition by both the US and Israel. The Israelis insisted that the PLO withdraw prior to the arrival of an international force. Israel was concerned that a peacekeeping force would act to

⁵⁵ Ibid., 146-147.

⁵⁶ Ibid., 148-149.

⁵⁷ Ibid., 149.

separate Israeli and PLO forces, allowing the PLO to remain in Beirut under the de facto protection of the international force.⁵⁸

While negotiations continued, Israeli forces maintained their pressure, continuing to attack PLO positions and slowly advancing toward the airport. Heavy artillery barrages continued to produce civilian casualties. In a concentrated effort involving heavy shelling and a two-pronged armor attack, the IDF captured the airport on 1 August. The attack on the airport was the first major ground assault of the siege and demonstrated the importance of the airport to Israeli forces. Still, the attack began only after nine straight days of bombardment.⁵⁹

On 4 August, negotiations for a PLO withdrawal broke down. In response, the IDF launched a major offensive against PLO positions north of the airport and west of the Green Line. During the most costly day of the siege, the IDF lost 19 killed and 76 wounded. Israeli progress was slow and limited, but the offensive convinced the PLO to withdraw from the city.⁶⁰

The attack drew an immediate rebuke. The Reagan administration severely criticized the Israelis for mounting an offensive in the midst of diplomatic negotiations and urged an Israeli withdrawal back to the Green Line. The costly offensive also seemed to energize negotiations. On 6 August, the PLO and Israeli agreed “on all major points” of the plan brokered by Philip Habib to allow the withdrawal of the PLO. ⁶¹

⁵⁸ Ibid., 149, 156.

⁵⁹ Ibid., 150.

⁶⁰ Dan Bavly and Eliahu Salpeter, *Fire in Beirut: Israel's War in Lebanon with the PLO* (New York: Stein and Day, 1984), 108.

⁶¹ Gabriel, 154-155.

The PLO, however, appeared to stall on the agreement to leave Beirut. In response, the Israelis again bombarded PLO positions in Beirut. The Israelis launched their final attacks on 12 August, again hitting military targets with massive air, artillery, and naval gunfire strikes. The attack was devastating to the PLO and succeeded in convincing Arafat to quit the city.⁶²

Following the 12 August attacks, Beirut grew quiet with a final cease-fire. The Israeli cabinet expedited the peace agreement, and IDF forces slowly backed away from PLO positions in order to reduce tensions in Beirut. Israel finally approved the peace plan on 19 August, and, two days later, a multi-national force began to arrive in Beirut. The next day, 21 August, the PLO began to depart Beirut, officially ending the siege.

The Siege of Beirut lasted 53 days and cost Israel 88 dead and 750 wounded. Around 1,000 PLO soldiers and perhaps fewer Syrians were believed killed during the intense bombardments of the siege. Reliable estimates suggest that between 5,000 and 8,000 civilians were killed, far surpassing combatant losses. Richard Gabriel noted that around 23 percent of the IDF dead during Operation Peace for Galilee resulted from the Siege of Beirut, even without significant ground assaults against fortified PLO positions. He suggests that during the limited ground action the “Israeli Defense Force appears to have suffered disproportionately far more casualties in these engagements than did the PLO... despite the fact that every precaution was taken to minimize the intensity of the battle.” The PLO suffered significant materiel loss, but managed to remove 14,616 soldiers from the city. ⁶³

⁶² Bavly and Salpeter, 108-109.

⁶³ Gabriel, 167.

The Role of Airpower

During the Siege of Beirut the Israelis used military force as a coercive instrument to compel the PLO to depart Lebanon, thereby ensuring the security of northern Israel. In the short term, the Israeli strategy succeeded in a “clear-cut military victory for Israeli forces and a major political defeat for the PLO.” However, the siege also resulted in international criticism of Israel and associated loss of external support and prestige. Still, the military objective of providing security for northern Israel was met.⁶⁴

Airpower gave the Israelis a unique tool to prosecute their coercive strategy. Israel intentionally avoided major ground-force action during the siege. Armor and infantry were primarily a fixing force that put additional pressure on the PLO. The bulk of the force employed consisted of artillery, tank fire, naval gunfire, and airstrikes. Of these elements, only airpower offered the capability to accurately attack targets and limit collateral damage. Analysis of the siege showed that artillery was by far the major killer of civilians. The reasons for this were twofold. First, artillery was heavily used in the southwestern portions of the city, around the industrial areas near the airport, and most of the heavy fighting occurred in these areas. Second, artillery and naval gunfire were rather inaccurate compared with direct-fire tank weapons and airstrikes. Therefore, indirect-fire weapons were used in a more indiscriminant manner to bombard relatively large target areas. Artillery was particularly relied upon for disproportionate responses to PLO attacks. These responses often caused significant civilian casualties and collateral damage.⁶⁵

⁶⁴ Ibid., 167-168.

⁶⁵ Ibid., 162-163.

Airpower was the tool of choice for attacking military targets where collateral damage was a major concern, such as within residential areas. The IAF used Maverick missiles and relatively small 500-pound bombs to limit collateral damage. The Maverick missile, normally an anti-tank weapon, was the chosen because it is a precision-guided system—therefore increasing accuracy—and its relatively small, shaped-charge warhead could destroy a single floor of a selected building. The Maverick could also reliably strike a vertical target. That is, because it is a powered missile, pilots were able to fire Mavericks along streets to attack specific floors on buildings.⁶⁶ Small bombs lacked the accuracy of the Maverick, but similarly limited damage due to their small explosive load. Unguided bombs were also limited by their inability to reliably strike a selected level on a vertically presented target, such as a floor in a high-rise building. Additional precision guided munitions could have increased the effectiveness of airpower throughout the siege.

Airpower was also used during the siege to produce psychological effects without expending ordnance. Throughout the siege, the IAF flew mock attacks and dropped leaflets and flares in an effort to maintain pressure on both supporting civilian populations and the PLO. It is not clear how effective these measures were, but airpower thus provided the Israelis another tool to maintain coercive pressure without risk of casualties or collateral damage.

⁶⁶ Ibid., 160.

Missions

Airlift

Airlift provided critical transportation for the siege. Israeli C-130s brought supplies forward to secure airfields where they could be distributed by helicopter. Because of poor road conditions in Lebanon, the Israelis used airlift almost exclusively to move supplies and troops forward. “Using the few roads as airfields, IAF C-130s were able to play a big role in sustaining the supply effort.”⁶⁷ Helicopters and fixed-wing transports also evacuated wounded soldiers, directly reducing IDF loss of life.⁶⁸

Air Superiority

Operation Peace for Galilee required the IAF to fight for air superiority. The Syrians had a sizable air force and large numbers of sophisticated SAM batteries and radar-directed anti-aircraft guns. Throughout the campaign, the IAF destroyed Syrian MiGs in the air and attacked anti-aircraft systems on the ground, eventually achieving air supremacy. Israeli attack helicopters, American built AH-1 Cobras and Hughes 500 Defenders—similar to the US Army’s AH-6 Little Bird—played a critical role in defeating Soviet-built anti-aircraft systems.⁶⁹ During the siege, the IAF maintained air supremacy in order to allow the Israelis freedom to attack PLO positions without fear of attack from the Syrian Air Force or anti-aircraft systems.

⁶⁷ Ibid., 210.

⁶⁸ McLaurin, 61, 74.

⁶⁹ Gabriel, 212-213.

Surface Attack

By far the most significant contribution of the IAF was surface attack. Fixed-wing attack aircraft gave the Israelis a psychological weapon and their only surgical strike capability throughout the siege. The IDF made a concerted effort to reduce both civilian casualties and collateral damage during the siege. The Israelis used airstrikes almost exclusively in the main commercial and residential area of northern Corniche Mazraa in West Beirut. In this area, the IAF struck fewer than 40 targets throughout the siege. Using precision-guided Maverick missiles and 500-pound bombs, the IAF hit only identified military targets in downtown West Beirut.⁷⁰

In the southern portion of West Beirut, the industrial area near the airport where the main PLO concentrations were located, indirect fire from artillery and naval gunfire accounted for most of the civilian casualties and collateral damage. In this area, the IAF used less restrictive rules of engagement, but still used guided missiles and 500-pound bombs to limit damage.⁷¹

Information Operations

Because the siege of Beirut was an effort to coerce the PLO to withdraw from the city, psychological operations were essential to mission success, and Israeli crews conducted information operations throughout the siege. Those operations included leaflet drops and mock attacks in order to keep pressure on the defenders. Mock attacks also sensitized the PLO to the presence of aircraft and, thereby, constituted a deception operation that allowed the first offensive use of airpower during the siege, on 22 July, to

⁷⁰ Ibid., 161.

⁷¹ McLaurin, 38.

achieve some level of surprise. Subsequent mock attacks were more credible and, therefore, more valuable as psychological tools.

Command, Control, Communications, and Reconnaissance

The major airpower contribution to command and control of the siege was aerial photography. Aerial photography provided command elements with critical intelligence and allowed precision targeting of military targets. Remotely piloted vehicles provided real-time video imagery to command elements. Additionally, pilots had to keep photos of their targets with them on missions in order to visually identify their targets.⁷²

Airpower Lessons

Capability

Air supremacy was a critical enabler for the IDF. By establishing air supremacy over Lebanon, the IDF could maintain siege positions, large concentrations of forces, and stocks of equipment and supplies without the threat of air attack. Additionally, the Israelis were able to resupply their forces and evacuate wounded without facing a significant air threat.

Airpower provided the Israelis with their only precision-strike capability during the siege. In northern West Beirut, where concerns for civilian casualties and collateral damage caused the greatest concern, airpower was used almost exclusively. The availability of this capability denied the PLO any safe havens, even in residential areas.

A corollary to the IAF's precision capability was the use of artillery and naval gunfire. Both caused significant civilian casualties and collateral damage. Civilian

⁷² Ibid., 58.

casualties constituted the single largest political cost to Israel during and after the siege. The potential for casualties brought condemnation from both the international community and the Israeli cabinet. The latter eventually resulted in a reduction of the Defense Minister's authority to conduct the siege and expedited a political solution, despite some Israeli objections to the plan.⁷³

Therefore, it is reasonable to assume that a greater precision-strike capability—that is, a larger number of precision-guided munitions, including those with larger payloads—could have allowed the Israelis to achieve their military objectives at smaller political cost.

Survivability

The Israeli effort to limit IDF casualties offers another lesson for military professionals. The bulk of the siege was conducted with operational fires. Ground forces were used primarily to fix the PLO in the city. Ground forces also maintained pressure on the PLO by cautiously advancing throughout the siege. Major PLO camps, comprised of masonry structures, were bypassed rather than overrun. Tanks and APCs provided some protection to forward-deployed forces, but suffered heavily from anti-tank weapons and mines. During the major offensive of 4 August, the Israeli advances were halted by PLO defenses. Therefore, armor did not provide a capability to succeed in urban warfare. The lesson for both airmen and surface-force professionals is that, because of vulnerability, in some cases ground forces may not be the primary instrument for urban warfare.

⁷³ Gabriel, 158.

Unlike the ground forces of the IDF, the IAF suffered no casualties during the siege. Due to the maintenance of air supremacy, including the destruction of sophisticated SAMs, the IAF was unchallenged in the sky over Beirut. The PLO and Syrian forces in Beirut did have a significant number and variety of optically guided antiaircraft artillery (AAA), as well as SA-7 man-portable air defense systems (MANPADS), and vehicle-mounted SA-9 infrared guided missiles, but could mount no effective defense against Israeli fighters. Israeli reliance on survivable fighters and standard defensive tactics of launching decoy flares following an attack probably increased the IAF's survivability over Beirut. Possibly due to concerns about their survivability, helicopter gunships were not used for urban operations during the siege.⁷⁴

The overall aircraft survivability lessons are twofold. First, air superiority is an essential enabler and must be established. Second, fighters can conduct surface attack in an urban operation against optically aimed AAA and early generation infrared guided missiles. With survivability reasonably ensured, aircraft can contribute significantly to urban warfare.

⁷⁴ McLaurin, 23,72.

Chapter 4

Operation Just Cause, Panama, 1989

For even if a decisive battle be the goal, the aim of strategy must be to bring about this battle under the most advantageous circumstances. And the more advantageous the circumstances, the less, proportionately, will be the fighting.

—Sir Basil Henry Liddell Hart

Operation Just Cause is an excellent example of a brute-force overthrow of a foreign government. The operation centered on the ability to rapidly project power and operate effectively at night, in urban environments, with limited risk of casualties or collateral damage.

Virtually every military operation in Panama was conducted in an urban environment or in direct support of the urban fight. In nearly every case, either fixed- or rotary-wing airpower provided initial and follow-on firepower to destroy, disrupt, and suppress Panamanian forces and, thereby reduce the number of American casualties.

Background

The isthmus of Panama, and particularly the Panama Canal, has long been strategically important to the United States as a critical link between the Atlantic and Pacific. American forces were stationed in the Canal Zone since the construction of the canal early in this century, and thousands of US citizens lived and worked there. During

the 1980s, Panama became an important ally in counterinsurgency operations throughout Latin America. Those operations were winding down by the late 1980s. By then, counter-narcotics operations were also conducted out of Panama.

Maintaining close relations with the Panamanian government was essential to supporting US operations and interests in the region. Omar Torrijos, the leader of a military junta, was planning democratic elections for 1984. When Torrijos was killed in a plane crash in 1981, hopes for a stable, democratic Panama dimmed. Manuel Noriega, an intelligence officer and protégé of Torrijos, stepped in to fill the power vacuum. Noriega had received military training in the US and had worked closely with American officials supporting the Nicaraguan Contras. Noriega promoted himself to Brigadier General and renamed the military the Panamanian Defense Force (PDF). He also engineered a fraudulent election to install a figurehead president in order to maintain the appearance of a civilian government. The fraud outraged Panamanians, but there was little they could do. Noriega ruled with an iron fist, ordering the murder of Dr. Hugo Spadafora, a Panamanian hero who criticized Noriega for cocaine trafficking. On 10 July 1987, Noriega ordered the PDF to attack demonstrators who were protesting his rule. Several were shot, many more were beaten and arrested. Noriega also harassed American military members within Panama. In October 1987, the PDF arrested and briefly detained nine American servicemen, refusing their requests to speak to anyone while in detention.⁷⁵

American relations with Noriega became increasingly strained through the 1980s. Congress investigated “reports of corruption, brutality, and drug trafficking by Noriega

⁷⁵ Thomas Donnelly, Margaret Roth, and Caleb Baker, *Operation Just Cause: The Storming of Panama*, (New York: Simon & Schuster Inc., 1991), 5-10.

and the PDF.” Still, the Reagan administration continued to work with Noriega because of his value as an ally, however distasteful, in efforts against Communist insurgency in Latin America.⁷⁶

Relations with Noriega worsened when he was indicted on drug trafficking charges by two separate Florida grand juries on 4 February 1988. Yielding to American pressure, Panamanian president Eric Devalle fired Noriega on 27 February. Noriega, however, did not leave his post as head of the PDF. Instead, he stepped up harassment of American servicemen, detaining thirty-three Americans on trumped-up charges.⁷⁷

The Reagan administration increased pressure on Noriega through massive economic sanctions.⁷⁸ Conflict within the Panamanian government continued, and a PDF officer unsuccessfully attempted a coup against Noriega in March. The failed coup attempt allowed Noriega to strengthen his control over the PDF. Harassment of the American military presence also continued. In April, US Marines guarding the Arraijan fuel tank farm, near Howard Air Force Base, exchanged shots with suspected PDF intruders.⁷⁹

The Reagan administration attempted to negotiate with Noriega. In return for dropping the indictments, Noriega offered to step down and scheduled elections for 7 May 1989. The efforts failed and harassment continued. In June 1988, PDF soldiers beat a US soldier and raped his wife. More arrests and beatings followed.⁸⁰

⁷⁶ Ibid., 10.

⁷⁷ Ibid., 21-22.

⁷⁸ For a discussion of the results of economic sanctions against Panama see: Jonathan Kirshner, “The Microfoundations of Economic Sanctions,” *Security Studies*, Vol. 6, No. 3. (Spring 1997), 32-64.

⁷⁹ Ibid., 30-32.

⁸⁰ Ibid., 35, 39-43.

Hopes for a transition to a democratically elected government in Panama were destroyed by widespread fraud in the May election. Guillermo Endara, the popular opposition candidate supported by the US, was winning the election. Noriega was losing badly and tried to turn the election around to favor his candidate, Manuel Palma, by having the PDF seize ballot boxes. The election was annulled and abuses of American citizens and servicemen continued at an increasing pace.⁸¹

Newly inaugurated President George Bush responded by recalling the ambassador and executing Operation Nimrod Dancer, the deployment of mechanized forces from the 5th Infantry Division (ID), elements of the 7th ID (Light), and Marines equipped with light armored vehicles (LAV) to reinforce US forces in Panama. Bush also replaced General Fredrick Woerner, the Commander of US Southern Command (SOUTHCOM), with General Maxwell Thurman.⁸²

A confrontation between American and Panamanian forces exacerbated the tension. Marines on their way to an exercise were confronted by armed members of the Dignity Battalions, a Panamanian paramilitary force. The Panamanians backed down, but later retaliated by arresting and briefly detaining two American soldiers. Noriega installed Francisco Rodriguez, a close ally, as the President of Panama. President Bush retaliated by announcing that the US would no longer recognize the government of Panama.⁸³

Another coup attempt failed, in October 1989, and Noriega extended yet more control over Panamanian affairs. American officials were notified about the planned coup the day before it occurred, but declined to support it for a variety of reasons,

⁸¹ Ibid., 44-46.

⁸² Ibid., 47-51.

⁸³ Ibid., 64.

including inadequate time to respond. The attempt, by the PDF's chief of security, Major Moisés Giroldi, ended with Giroldi's execution.⁸⁴

On 15 December 1989, Noriega deposed Rodriguez, appointed himself "Maximum Leader," and declared war against the US. The next day an American officer and his wife were detained and beaten, and US Marine Lieutenant Robert Paz was shot and killed by PDF forces. On 17 December, President Bush gave the order to execute Operation Just Cause, the invasion of Panama.

Operations

The planning for Operation Just Cause began in earnest in February 1988. Even before General Thurman took command of SOUTHCOM on 30 September 1988 he designated Lieutenant General Carl Stiner, then commander of the XVIII Airborne Corps, as commander of Joint Task Force South (JTF SOUTH). General Stiner and the JCS reviewed existing plans in the SOUTHCOM "Prayer Book" in order to develop a coherent plan to seize Panama. The existing plan to attack the PDF was Operation Blue Spoon. Eventually, Operation Just Cause included a revised version of Operation Blue Spoon and Operation Acid Gambit, a Special Operations Forces (SOF) raid to rescue Curt Muse, an alleged Central Intelligence Agency operative held in the Modelo Prison within the Comandancia compound, Noriega's headquarters in down town Panama City.⁸⁵

Prior to the assault on Panama, several operations were conducted to prepare the battlefield and to continue to exert pressure on the Noriega regime. Operation Nimrod

⁸⁴ Ibid., 67-69.

⁸⁵ Bob Woodward, *The Commanders* (New York: Simon & Schuster Inc., 1991), 108-115.

Dancer, the reinforcement and prepositioning of forces, began on 11 May. Forces included a battalion task force and headquarters element from the 7th ID (Light), a battalion of the 5th ID (Mechanized) which included four Sheridan tanks, and company of Marine Corps Light Armored Infantry.⁸⁶ On May 22, Operation Blade Jewel began the evacuation of US military service members and dependents from Panama.⁸⁷ Eventually, 6,300 dependants were airlifted out.⁸⁸



Source: CIA, Base 802396 (540285) 5-95

Figure 5. Panama

The National Command Authority directed the execution of Operation Just Cause on 17 December 1989, setting H-hour for 0100, 20 December 1989. Forces immediately began to assemble and deploy. Some of the forces were already in Panama, others deployed to the isthmus in order to operate from within the country, while the remainder of the assault force prepared for the direct flight from the US.

⁸⁶ "Operation Just Cause Historical Summary," *Soldiers and Leadership Bulletin*, No. 90-9, n.p.; on-line, Internet, 11 March 1999, available from http://www.call.army.mil/call/ctc_bull/90-9/9091his.htm.

⁸⁷ Ibid.

Major objective areas included the Comandancia compound in Panama City, Torrijos/Tocumen airport to the east of the capital, and Rio Hato military compound and airfield to the west. Additional target areas included Paitilla airfield in downtown Panama City, the bridge over the Pacora river to the east of the city, Fort Sherman, and several objectives on the Atlantic coast.



Source: CIA, Base 802396 (540285) 5-95

Figure 6. Major Operations at H-hour

The assault began with a massive airlift operation. The 75th Ranger Regiment, the Division Ready Brigade of the 82nd Airborne Division, and heavy equipment were loaded onto 148 C-130s and C-141s in the United States.⁸⁹ A winter storm in the southeastern US, accompanied by hail and freezing rain, caused delays in loading and departures due

⁸⁸ Donnelly, Roth, and Baker, 93.

⁸⁹ "Operation Just Cause Historical Summary."

to ice build up on the aircraft.⁹⁰ Concerns about preserving the element of surprise caused a last-minute move in H-hour from 0100 to 0045. Most, but not all forces were able to adjust to the slip. American officials ensured that Guillermo Endara was sworn in as the legitimate President of Panama as the operation began.⁹¹

The Comandancia

The primary objective of Operation Just Cause was the Comandancia compound in the heart of Panama city. The compound was the headquarters for Noriega and the PDF, and the barracks within the masonry walls housed the Dobermans, Noriega's security police.⁹² Additionally, the Modelo Prison within the compound held Kurt Muse, the objective of Operation Acid Gambit.

The operation to rescue Muse, seize Noriega's headquarters—and hopefully Noriega himself—neutralize the Dobermans, and secure the compound involved special operations and conventional forces. Initiating hostilities at H-hour, 0045 on 20 December, two AC-130s from the 16 Special Operations Squadron struck several targets within the compound, including ZPU-4 antiaircraft artillery (AAA) and the Doberman barracks, and provided illumination and terminal guidance for Army special operations helicopters. In order to allow the safe approach of the helicopters, the gunships had just four minutes to suppress AAA and disrupt the defenses before ceasing fire. An MH-6 Little Bird, from Task Force 160, lifted SOF forces onto the prison. The SOF soldiers rescued Muse and departed on the MH-6. Ironically, the MH-6, overloaded with the

⁹⁰ Donnelly, Roth, and Baker, 196-205.

⁹¹ United States Joint Chiefs of Staff, *Joint Military Operations History Collection* (Washington, D.C., 1997), IV-3.

⁹² Donnelly, Roth, and Baker, 69.

additional weight of Muse, landed in the street just outside the compound. The rescuers and Muse linked up with armored forces and later moved to safety. Other Little Birds, AH-6s, attacked other targets within the compound after the AC-130s stopped firing. After the rescue, the AC-130s remained overhead to provide fire support for the seizure of the compound.⁹³

The prepositioned mechanized forces, including armored personnel carriers, four M551 Sheridan tanks from the 5th ID, and Marine LAVs, moved from US compounds into the city. They fought through road blocks to establish blocking positions outside the Comandancia compound, isolate Panamanian forces, and secure the compound. AC-130 gunships continued to provide close air support for the fight at the Comandancia and protected the nearby American embassy.⁹⁴

The complex, intricately timed mission went well overall, with three notable deviations from the plan. The first was the fifteen-minute move of H-hour from 0100 to 0045. The change had minimal impact on the rescue mission at the Modelo Prison, as the forces involved were able to adjust and continue the mission. The armored forces, however, lost the element of surprise and, consequently, met some resistance moving into the city. The second difficulty came when an AH-6 was shot down inside the compound within meters of an AC-130 target. Fortunately, both crew members escaped unhurt and joined the mechanized forces outside the walls. The third problem occurred when a gunship crew misidentified 5th ID M-113 armored personnel carriers as Panamanian V-

⁹³ Major James H. Bradley, Army SOF Aviation in Urban Operations, The Role of Aerospace Power in Joint Urban Operations Conference, Hurlburt Field, Florida, 24 March 1999.

⁹⁴ Ibid.

150 armored vehicles. The gunship fired on the US forces, and wounded several Americans.⁹⁵

The Comandancia compound was secured after several hours of heavy fighting. Noriega was not inside and thus escaped capture. The fight at the Comandancia cost the US four dead and forty wounded, which including those hit by AC-130 fire.⁹⁶

Paitilla Airfield

Paitilla airfield in downtown Panama City was also an objective. Noriega maintained his personal Learjet at the airfield. Fearing Noriega might try to escape the country, three platoons from Navy SEAL Team 4 were tasked to destroy the jet and block the runway in order to keep the Panamanians from using it to bring in reinforcements. The SEALs conducted an amphibious operation, coming ashore in small boats about thirty minutes prior to the planned 0100 H-hour. When H-hour was moved up to 0045, the SEALs were unable to adjust and lost the element of surprise when AC-130s and AH-6s began firing at the Comandancia compound just a few hundred meters away. The SEALs met heavy resistance and were caught in the open as they advanced along the runway. After a brief but fierce battle, the SEALs neutralized the defenses and disabled the Learjet with an antitank rocket. The AC-130 assigned to support the SEALs received no requests for fire support and, consequently, was unable to assist in the attack. Although successful, the Paitilla operation cost the SEALs four dead and eight wounded.⁹⁷

⁹⁵ Ibid.

⁹⁶ Donnelly, Roth, and Baker, 137.

⁹⁷ Ibid., 113-119.

Torrijos/Tocumen International Airport

Army Rangers secured Torrijos/Tocumen International Airport by an airborne attack. Before the airdrop, an AC-130 and two AH-6 Little Bird helicopters provided preassault fires in order to eliminate heavy weapons, destroy or disrupt the Panamanian 2nd Rifle Company, and eliminate other threats to the Rangers. In a precisely-timed, 90-second action starting at H-hour, the AC-130 silenced a ZPU-4 anti-aircraft gun and destroyed the Panamanian 2nd Rifle Company barracks, disrupting the defending forces. The AH-6s attacked two guard posts, the control tower, and enemy troops. The preassault fires stopped thirty seconds prior to the airdrop. At 0103, seven C-141s and four C-130s dropped elements of the 1st and 3rd Ranger Battalions onto the airport. After the Rangers landed and established radio contact with the aircraft, the AC-130 and AH-6s provided close air support for the mission.⁹⁸

The Rangers were followed, at 0135, by 28 C-141s dropping heavy equipment and, ten minutes later, by 20 more C-141s with 2,176 paratroopers from the 82nd Airborne Division. A winter storm in the United States caused significant delays due to ice build-up on loading aircraft. The second and third airdrops were delayed ten and 25 minutes, respectively.⁹⁹ The 1st Battalion of the 82nd Airborne was dropped in order to conduct air assault missions into Panama City. After daybreak, portions of the 7th ID (Light) would land at the airport as a reserve force.¹⁰⁰ The airfield was secured and the mission was

⁹⁸ Ibid., 196-205.

⁹⁹ Ibid., 196-205.

¹⁰⁰ Ibid., 191.

successful with one Ranger dead and eight injured. Aircraft carrying elements of the 7th ID (Light) began arriving at 0800 as scheduled.¹⁰¹

Pacora River bridge

The bridge over the Pacora river linked Fort Cimarron with Torrijos/Tocumen International Airport and downtown Panama City. One of the initial missions at H-hour was to block the bridge in order to keep Panamanian forces garrisoned at Fort Cimarron, Battalion 2000, from interfering with operations at Torrijos/Tocumen or the Comandancia. Army (SOF) air assaulted onto the western side of the bridge, opposite Fort Cimarron, in order to oppose any attempts to cross the bridge. They “would provide target information to the AC-130 gunship, which would provide the main firepower against the PDF vehicles.” The special forces company and the AC-130H repelled several attempts to cross the bridge and succeeded in isolating operations in the city from PDF reinforcements.¹⁰²

Rio Hato

Another main objective of Operation Just Cause was the Panamanian military compound and airfield at Rio Hato, about 75 miles west of Panama City. The two infantry companies garrisoned at Rio Hato were a potential threat to US forces conducting operations throughout Panama. Therefore, a second major airborne assault was planned against Rio Hato. Similar to the Torrijos/Tocumen assault, an AC-130 provided preassault fires in order to silence two known ZPU-4 anti-aircraft weapons and

¹⁰¹ Ibid., 212.

¹⁰² Ibid., 127.

disrupt PDF forces at the base.¹⁰³ Just before the gunship began firing, a flight of two F-117s dropped precision-guided munitions just outside the barracks in an effort to stun the PDF defenders. Following preassault fires, 13 C-130s dropped elements of the 2nd and 3rd Ranger Battalions onto the base and two C-130s dropped heavy equipment. Following the drop, the AC-130 provided CAS and surveillance, and two AH-64 Apaches and two AH-6 Little Birds provided additional firepower. Once the runway was cleared, although still under fire, five MC-130s landed in order to offload equipment and provide fuel for supporting AH-64 and AH-6 attack helicopters that arrived from Howard Air Force Base.¹⁰⁴

By daybreak Rio Hato was securely in the hands of US forces. The seizure cost the Rangers four dead, two by friendly fire from an AH-6, 18 wounded, and an additional 26 injured in the airdrop.¹⁰⁵

Operation Just Cause officially continued until 12 January 1990. During the remainder of the operation US forces secured objectives across the isthmus and searched for Noriega, who eluded capture by American forces and fled to the Papal Nuncio on 24 December. Surrounded and without options, Noriega surrendered and was arrested by agents from the US Drug Enforcement Agency on 3 Jan 1990.

The Role of Airpower

Operation Just Cause was a brute-force decapitation of the illegitimate government of Panama. In the years leading up to the invasion, the US attempted coercive

¹⁰³ Lieutenant Colonel Mark P. Transue, Commander, 16th Special Operations Squadron, Interview by the author, 15 April 1999. Lt Col Transue was the aircraft commander of the AC-130 at Rio Hato.

¹⁰⁴ Donnelly, Roth, and Baker, 333-349.

¹⁰⁵ Ibid., 349.

diplomacy, economic warfare, and the coercive use of force in the form of Operation Nimrod Dancer—a show-of-force and freedom-of-movement exercise that also allowed the build up of forces in Panama for the eventual invasion. By December 1989, coercion had failed. The National Command Authority made the decision to use military force to remove Manuel Noriega and install the apparent victor of the nullified 7 May election, Guillermo Endara.

The role of airpower was twofold. First, and most fundamentally, airpower was the strategic enabler for the invasion. “Chairman of the Joint Chiefs of Staff General Colin Powell emphasized surprise, speed, and night operations.”¹⁰⁶ Airpower, and particularly airlift, provided the capability to achieve these goals. Both fixed wing and rotary wing airlift were essential to the plan. Air Force C-5s, C-130s, and C-141s provided the bulk of lift for the preinvasion build up, the assault, the rapid build up of combat power, and the sustainment of deployed forces. In all, 285 Air Force aircraft were assembled to lift, refuel, and escort the invasion forces.¹⁰⁷ Numerous Army and Air Force helicopters deployed to and operated out of Panama. In short, the invasion was an airborne assault. Airpower was made it happen.

Second, airpower was an essential portion of virtually every combat operation throughout the isthmus. Combat aircraft included seven AC-130Hs; the two over the Comandancia deployed to Howard Air Force Base on 18 December and the other five flew directly from Hurlburt Field, Florida, to arrive over their individual targets at H-hour. Two Air Force Reserve AC-130Es, deployed to Howard AFB for active duty

¹⁰⁶ United States Joint Chiefs of Staff, IV-2.

¹⁰⁷ Donnelly, Roth, and Baker, 101.

commitments, provided additional firepower. The two F-117s dropping 2000-pound laser-guided bombs at Rio Hato flew directly from Tonapah range in the US.¹⁰⁸

Attack helicopters included AH-6 Little Birds and AH-64 Apaches, making their combat debut. Both platforms provided suppressing fire to allow airborne and air assault missions to occur with minimum resistance and provided CAS throughout the operation.

At the tactical level, airpower provided an effective coercive mechanism. Once gunships had demonstrated their capability to deliver devastating, accurate firepower, one was effectively used to compel a group of about 300 armed Panamanians to surrender to a US special forces detachment.¹⁰⁹

Missions

Airlift

Huge C-5s moved the tanks and helicopters, and, in all, 148 C-130s and C-141s airlifted the 75th Ranger Regiment and the 1st Brigade, 82nd Airborne Division. Dozens of sorties were required to predeploy forces, deploy and reinforce the assault force, and sustain the force throughout the operation. When Operation Just Cause ended, airlift forces redeployed some of the assault forces and brought in those forces for Operation Promote Liberty, which conducted civil military affairs and support US operations in Panama.¹¹⁰

¹⁰⁸ Donnelly, Roth, and Baker, 340-341.

¹⁰⁹ Lieutenant Colonel Charles G. McMillan, Director of Operations, 16th Special Operations Squadron, Interview by the author, 15 April 1999. Lt Col McMillan was the aircraft commander of the lead AC-130 in the two-ship formation over the Comandancia.

¹¹⁰ Donnelly, Roth, and Baker, 389.

Inflight Refueling

Tankers provided inflight enroute refueling for the aircraft enroute from the US and all sustainment refueling for the AC-130Hs and an E-3A Airborne Warning and Control System (AWACS) aircraft. Without inflight refueling, the strike missions would have been forced to predeploy to Howard AFB, or some other nearby facility, possibly jeopardizing operational security.

Surface Attack

Firepower provided by aircraft was more than a force multiplier. Particularly at the Comandancia compound, preassault fires and responsive close air support to suppress hostile fire allowed the vulnerable MH-6 Little Bird to get in and out of the compound. Even with the suppressive firepower of two gunships, one AH-6 was shot down during the rescue mission. Preassault fires destroyed weapons, suppressed fire, and disrupted Panamanian forces at Torrijos/Tocumen and Rio Hato, thereby reducing casualties and ensuring successful operations.

Communications, Command, Control, and Reconnaissance

Air and space power were essential for communications, command and control and reconnaissance throughout the planning, rehearsal, and execution of Operation Just Cause. Secure satellite communications (SATCOM) provided the National Command Authority a direct link with forces from the continental United States to Panama. The last-minute adjustment in H-hour was an example of the capability provided by beyond-line-of-sight communications. Links between the various target areas spread across the Canal Zone also relied on SATCOM. Coordinating the numerous rendezvous between

receiver aircraft and tankers was accomplished by AWACS using a variety of communications capabilities.

Information Operations

Information operations were a major portion of Operation Just Cause, and airpower was a critical piece of the plan. Special Operations EC-130 Commando Solo aircraft broadcast radio and television messages to the Panamanian public and PDF forces. Ground forces relied heavily on loud speakers and the demonstrated capability of airpower to convince elements of the PDF to surrender.¹¹¹

Airpower Lessons

Capability

The capability to rapidly deploy and sustain combat forces over a great distance proved essential to Operation Just Cause. The use of Marine forces was rejected as too slow and lacking the element of surprise required to execute the mission without endangering the thousands of American citizens living in Panama.¹¹² Therefore, only fixed-wing airlift, exploiting a night, low-level-airdrop capability, could rapidly deliver adequate combat power to overwhelm the PDF. Heavy equipment drops similarly demonstrated the value of tactical airlift capability.

Weather, particularly in the US, was a significant factor for deploying forces. The early winter storm caused departure delays among the airlift aircraft. This delay was partially made up, but ultimately caused delays to airdrop operations. Also, weather over

¹¹¹ Ibid., 229.

the Gulf of Mexico caused difficulties with refueling the five-ship formation of AC-130s proceeding from Florida directly to Panama. Weather over the isthmus of Panama was not a significant factor for the operation.¹¹³

The ability to attack Panamanian forces at night gave American forces an enormous asymmetric advantage over the PDF. While American forces were minimally degraded during night operations, Panamanian capability was severely degraded. Therefore, the ability to operate at night was critical to the success of Operation Just Cause.

Airdrop operations required open drop zones. Drop zones associated with runways at both Torrijos/Tocumen airport and Rio Hato made an airborne insertion possible. Even though poor mobility due to high vegetation and swampy conditions limited the effectiveness of airdrop operations, they still represented the fastest way to build up combat power.

Fixed-wing gunships possessed unique capabilities required for the urban operations in Panama. The AC-130 was used because of its capability to deliver accurately, low-yield munitions. Advanced sensors optimized for night operations, sophisticated fire control, and weapons including 20mm, 40mm, and 105mm cannons, gave the AC-130's crew the capability to identify and attack threats to friendly forces in the minutes before airborne and air-assault insertions.

Following the arrival of the assault forces, gunships provided responsive fire support to suppress threats to the mission. The very nature of fixed-wing gunships made them the optimal choice for support of ground forces for six distinct and synergistic reasons. First, the capability to simultaneously communicate directly with multiple ground forces and

¹¹² Colin Powell with Joseph E. Persico, *My American Journey* (New York: Ballantine, 1995), 409-410.

command and control elements made the gunships uniquely flexible in the dynamic environment of urban warfare. Second, the division of labor gave the gunship's crew an unparalleled capability to maintain situational awareness. Dedicated sensor operators, coordinated by a fire control officer, gave the crew the ability to observe two areas at once. Observing the target and friendly forces at the same time helped ensure safe separation between friendly forces and the target. Additionally, the dual sensor capability gave the crew the ability engage one target while searching for and identifying the next, thereby minimizing delays between attacking targets. This capability was critical because ground forces requested fire support in the minutes after hostilities began while gunships were striking a preplanned target.¹¹⁴ Third, because gunships operated in an orbit, the crews were able to keep the entire area under surveillance and under fire. The crews could shift fire without much maneuvering, thereby saving time. Fourth, the gunship's extended loiter time, on the order of four hours, gave the crews the ability to remain in the fight for extended periods without refueling and, therefore, maintain uninterrupted situational awareness. Fifth, the variety of weapons and large ammunition reserve gave gunship crews the ability to deliver tailored firepower for extended periods. Sixth, the gunship crews trained and rehearsed with the ground forces conducting the attacks on Panama. The relationships and skills developed during training allowed the ground forces to trust the gunship's capabilities and enabled the gunship crews to provide better supporting fires.

Still, Operation Just Cause showed some significant limitations of gunships. First, the friendly-fire incident at the Comandancia demonstrated that the US requires a better

¹¹³ Transue.

capability to identify friendly forces, particularly in an urban environment. Although the M-113 armored personnel carriers were marked with reflective tape that normally is visible to the gunship's low-light-level television, the ambient illumination of downtown Panama City washed out the glow of the tape. In the heat of the battle, the gunship crew mistook US M-113 armored vehicles for Panamanian V-150 armored vehicles. This incident also proved that more training and procedural development for identification of friend or foe is required. Second, even the 105mm projectile could not penetrate the concrete floors of buildings in the Comandancia compound. While low-yield munitions help to limit collateral damage and reduce the potential for injuring friendly forces, those munitions must be capable of providing desired effects on concrete-reinforced targets and armored vehicles. Therefore, gunships need a class of munitions more capable than the 105mm.

Attack helicopters proved very capable of providing CAS in the urban operations in Panama. The AH-6 Little Birds provided responsive fire support to several targets in the Comandancia compound. Their rockets proved to be effective weapons while their miniguns were capable of suppressing only targets not protected by masonry structures. The AH-64, using Hellfire missiles, effectively attacked some concrete structures and armored vehicles.¹¹⁵

Helicopters had three significant limitations. First, and most significantly, helicopters were vulnerable even to small arms fire. This vulnerability will be addressed below in the survivability section. Second, helicopters had relatively small stores of munitions and fuel, forcing forward-area rearming and refueling. Third, the helicopters'

¹¹⁴ McMillan.

limited communications capability forced them to remain linked directly to a tactical controller and, therefore, made it difficult to respond to operational-level tasking.

The combination of fixed-wing gunships and attack helicopters provided synergistic effects against urban targets. Because gunships fire down onto targets they can attack effectively only the tops of buildings, while helicopters fire more horizontally at their targets, giving them the ability to attack the sides of buildings. The mix of munitions between gunships and helicopters was generally suitable for urban operations, but more powerful munitions could have been beneficial. Heavier munitions could have effectively destroyed or suppressed forces in buildings with fewer attacks than the available munitions required.

The F-117 attacks demonstrated the limitations of current generations of precision guided munitions and the weapon systems that deliver them. The 2000-pound bombs dropped at Rio Hato were used to “stun” defending forces rather than directly attack them because the weapons were considered too large for the limitations on collateral damage imposed on the operation. For the same reason, fighter aircraft were not used in the more restrictive operations in Panama City.¹¹⁶

Operations

Preassault fires were designed to destroy, suppress, and disrupt enemy AAA and troops. There is a direct trade off between limiting the duration of preassault fires in order to preserve surprise and allowing sufficient time for aircrews to adequately deal with known and unknown threats to the assault force and accepting a lower level of

¹¹⁵ Donnelly, Roth, and Baker, 156-158, 230.

¹¹⁶ Ibid., 340-341.

surprise. The airdrops at Torrijos/Tocumen and Rio Hato favored surprise over additional time for aircraft to deal with threats. At Torrijos/Tocumen the brief, precisely-timed preassault fires destroyed all significant threats to the airborne assault because there were few threats and no unknown threats appeared. At Rio Hato, a major military complex, the situation was different. The attempt to “stun” PDF defenders was ineffective and possibly counterproductive in that the bombs clearly telegraphed the assault without directly suppressing threats. Further, the AC-130 and helicopters were not able to fire during the thirty seconds allocated for the bomb run. The two and a half minutes left for preassault fires gave the gunship time to destroy the two known ZPU-4s, but left no time for the crew to engage other heavy weapons and troops that marshaled against the assault force. The gunship aircraft commander noted that his crew did not have time to warn the inbound airdrop formation that significantly more resistance was present than had been expected.¹¹⁷ As a result, 11 of the 13 C-130s in the initial drop received damage and the assault force was dropped into a very “hot” drop zone. After the drop, gunship and helicopter fire was limited by the proximity of friendly forces. The requirement to coordinate with ground forces limited the ability of airpower to destroy PDF forces. Demonstrating the difficulty and hazards of truly close support, an MH-6 crew accidentally killed two Army Rangers in the confusion of the battle.¹¹⁸ The action at Rio Hato suggests that the balance between preassault fires and surprise should shift toward more time for preassault fires. Optimally, airpower could be tasked to eliminate threats to ground forces prior to an assault. Ground forces then could secure objectives with minimum risk of casualties and fratricide.

¹¹⁷ Transue.

The SEAL operation at Paitilla airfield is a tragic example of lost opportunity. The primary mission was to deny the use of a single aircraft housed in a metal-roofed hangar. The secondary mission was to deny the use of the airfield for PDF reinforcements. Both of those missions could have been accomplished easily by the gunship tasked to support the SEALs, or by other aircraft. It is not completely clear why the mission planners felt the need to use ground forces to accomplish those missions. Limiting collateral damage was one concern, but it was certainly not more important than limiting American casualties.

Some have suggested that using SEALs at Paitilla airfield was an example of letting all forces participate to the maximum extent possible. If this were the case, even at a subconscious level, it represents a gross misinterpretation of the concept of joint operations. In any case, the lesson to take from Paitilla is that, in order to limit friendly casualties, airpower should be used in lieu of ground forces when conditions permit. A lack of understanding of airpower capabilities and a paradigm that defaults to the use of ground forces make this a difficult lesson to apply.

The action at the Pacora river bridge was a better example of the synergistic use of ground forces and aircraft, but still demonstrated a less than optimal arrangement. While an Army Special Forces company air assaulted onto the west side of the bridge opposite Fort Cimmerian, an AC-130 provided the bulk of the combat power to stop the PDF from crossing the bridge. Arguably, the ground forces were unnecessarily exposed to hostile fire. The mission placed a small, outnumbered ground force in the path of the PDF, thereby forcing an unnecessary close air support scenario where the gunship fired at the

¹¹⁸ United States Joint Chiefs of Staff, IV-5.

direction of a ground force that did not possess adequate combat power to hold their position.

Breaking the air-supports-ground paradigm could have allowed the gunship to accomplished the mission with minimum risk to ground forces. Had the gunship aircraft commander been given mission-type orders to deny Battalion 2000 access to the bridge, the gunship crew could have accomplished the mission without concerns about the proximity of the ground force. Because of the location of the ground forces, the AC-130 fired within 40 meters of US troops.¹¹⁹ The ground force could have been located farther from the bridge to provide observation and a reserve capability to hold the bridge in case the AC-130 was unable to conduct the interdiction mission independently. In any case, the ground force's limited combat power was a backup to the gunship.

Coercing enemy forces to surrender requires a credible threat and airpower can either independently or jointly demonstrate the threat. The initial H-hour attacks provided evidence of airpower capabilities. At Fort Cimarron, in post H-hour operations, "infantrymen and psychological operations teams with bullhorns moved into the compound, going building to building and asking Panamanian holdouts to surrender. It took a show of force from the AC-130, infantrymen, and mortars to convince the Panamanians to give up."¹²⁰

¹¹⁹ Lieutenant Colonel F. Robert Gabreski, Director of Operations, 4th Special Operations Squadron, Interview by the author, 15 April 1999. Lt Col Gabreski was the aircraft commander of the AC-130 at the Pacora River bridge.

¹²⁰ Donnelly, Roth, and Baker, 229.

Survivability

Attack helicopters proved vulnerable to groundfire. Relatively small weapons damaged or destroyed several helicopters during the operation.¹²¹ Also, the largest, most capable antiaircraft weapon used by the PDF was the Soviet-built ZPU-4, a 14.5mm four-barreled, heavy machinegun. The ZPU-4 was capable of destroying both helicopters and low-flying airdrop aircraft. Gunships, however, operated well outside their maximum effective range.

The two major airdrops demonstrated that airlift aircraft could survive given preassault fires and a relatively low-threat environment. At Rio Hato, because the preassault fires lasted only three minutes the AC-130 was unable to fully suppress all AAA. Eleven of the 13 C-130s dropping on Rio Hato were slightly damaged by small arms fire.¹²² This suggests that longer or more intense preassault fires might have destroyed more heavy weapons and suppressed small arms fire in order to allow the drop to proceed with less resistance.

There was no significant threat to either the AC-130s or the F-117s involved in Operation Just Cause. Without the presence of more sophisticated antiaircraft weapons, such as larger caliber antiaircraft guns or guided missiles, fixed wing aircraft were able to operate above about 6,000 feet with relative impunity over the entire isthmus.

¹²¹ Ibid., 226.

¹²² United States Special Operations Command, *10th Anniversary History*, 1997, 23.

Chapter 5

UNOSOM II, Somalia

A plan, like a tree, must have branches—if it is to bear fruit. A plan with a single aim is apt to prove a barren pole.

—Sir Basil Henry Liddell Hart

UNOSOM II provides an example of peacekeeping and nation building operations in an urban environment. The joint and multinational operations in Somalia, and specifically Mogadishu, involved ground and air forces from several states and services. American attacks on the forces of Muhammad Farah Aideed and missions conducted by Task Force (TF) Ranger reveal several aspects of airpower in urban, smaller-scale contingencies.

Background

Following the Second World War, Italian Somaliland became an international protectorate under the United Nations (UN) until 1960, when Somalia was granted independence. The coalition government remained in power for less than a decade. Following a military coup in 1969 Somalia began building up its military. Somalia initially received support from the Soviet Union since rival Ethiopia was allied with the United States. The Soviets built military installations and provided arms. In the late

1970s, after a failed Soviet-backed coup attempt, Somalia began to side with conservative Arab countries.¹²³

By 1980 the United States was searching for Middle Eastern bases in the wake of the Iranian revolution. Somalia sought US support and, in return, allowed the US to establish the Berbera Naval base and airfield at the port of Somalia. The US also provided \$20 million in military credits to upgrade the Somali armed forces.¹²⁴



Source: CIA, Base 802101 (B00621) 12-92

Figure 7. Somalia

Throughout the 1980s, drought, refugee problems, and political turmoil wracked Somalia. American concerns over Somali stability delayed arms deliveries until the

¹²³ “An Introduction to Somalia: Somalia-Operations Other Than War,” *Special Edition* No 93-1, n.p.; on-line, Internet, 25 February 1999, available from http://call.army.mil.spc_edtn/93-1/tbl_con.htm.

Somali National Movement (SNM) began an armed insurgency along the Ethiopian boarder in 1982. Evidence that Ethiopian forces were providing air cover and armored vehicles prompted the US and Italy to deliver military aid to Somalia. As the conflict continued the Somali government deteriorated. In 1988, the Somali government began using UN relief supplies to recruit Ethiopian refugees to fight the Ethiopian-backed rebels. The UN eventually stopped the delivery of aid through the port of Mogadishu, opting to send it through Djibouti under UN supervision.¹²⁵

Difficulties continued and in 1990 the United Somali Congress (USC), the Somali Patriotic Movement (SPM), and the SNM joined forces in an effort to overthrow Siad Barre's fragile Somali government. When the USC and SPM joined forces, Mogadishu became a war zone with thousands of civilian casualties. In January 1991 the USC forced Siad Barre to flee the capital. A group of intellectuals and businessmen known as the Manifesto Group formed a government that was immediately rejected by the USC and SPM. Although Somalia was one of Africa's most homogeneous nations—there were virtually no religious or cultural differences among clans in Mogadishu—and there was no history of interclan fighting, full-scale fighting broke out in November and degraded into subclan warfare.¹²⁶ In the anarchy of the civil war, an estimated 300,000 to 500,000 Somalis starved to death in the resulting famine.¹²⁷

¹²⁴ Ibid.

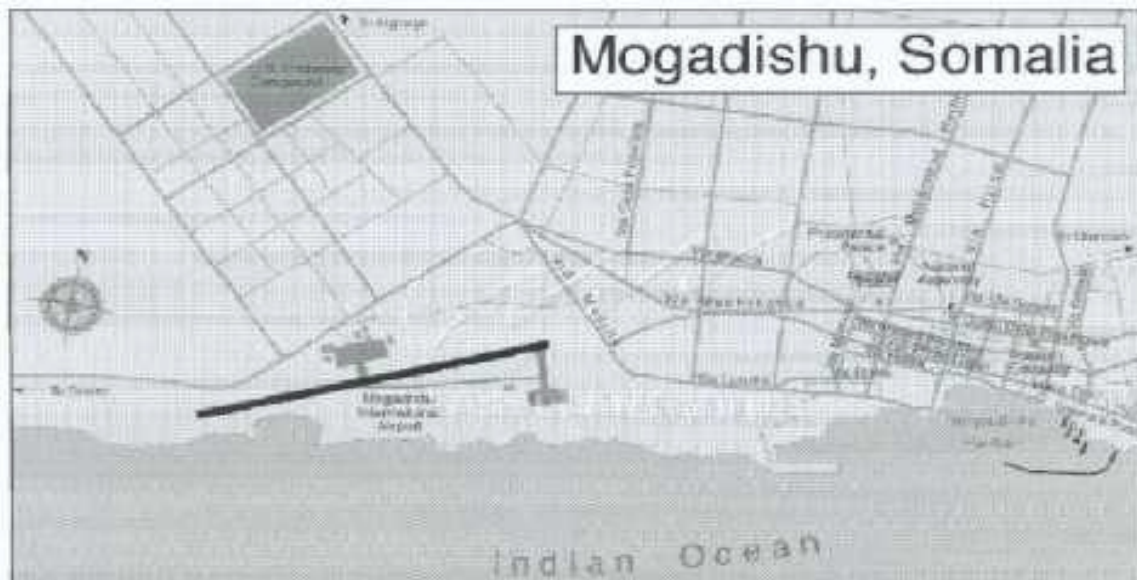
¹²⁵ Ibid.

¹²⁶ Ibid.

¹²⁷ "Ambush in Mogadishu," 1998, n.p.; on-line, Internet, 26 February 1999, available from <http://www.pbs.org/wgbh/pages/frontline/shows/ambush/>

Operations

In March 1992, the warring factions signed a UN-brokered cease-fire agreement that allowed the introduction of 50 unarmed observers to monitor the cease-fire as part of United Nations Operation in Somalia (UNOSOM I). The situation in Mogadishu continued to deteriorate with Somali mobs attacking and looting relief convoys.¹²⁸ The UN authorized 500 armed Pakistani peacekeepers to guard aid supplies being offloaded at the port of Mogadishu.¹²⁹ Relief efforts met continuing difficulties, and the US began an emergency relief airlift, Operation Provide Relief, which eventually delivered 28,000 metric tons of relief supplies. The airlift was only partially successful, however, and Somali interference with relief convoys continued.¹³⁰



Source: Magellan Geographix, 1997, n.p.; on line, Internet, available from <http://media.maps.com/magellan/Images/MOGADI-WI.gif>

Figure 7. Mogadishu, Somalia

¹²⁸ Ibid.

¹²⁹ United States Joint Chiefs of Staff, *Joint Military Operations History Collection* (Washington, D.C., 1997), VI-I.

¹³⁰ Kenneth Allard, *Somalia Operations: Lessons Learned* (Washington DC: Defense University Press, 1995), 4.

In December, in response to UN requests, President Bush directed US forces to provide security for aid efforts.¹³¹ This phase of the effort was dubbed Operation Restore Hope. Initially, the US-led multinational military mission achieved success in providing security for relief actions. On 7 January, in response to small arms fire, US Marines raided a compound belonging to Muhammad Farah Aideed and killed or captured several Somalis.

The situation in Mogadishu began to stabilize and, in March 1993, the UN, with the concurrence of the newly inaugurated Clinton administration, expanded the scope of operations in Somalia to include “nation building” under UNOSOM II. The UN was to take over the US-led mission in order to restore law and order, disarm the combatant factions, improve the badly damaged infrastructure, and set up a process to establish a representative government. On 4 May UNOSOM II began, and the US handed over leadership of the military mission and began to draw down from 25,000 US troops to only 4,200 as additional UN forces arrived.¹³²

The nation-building mission met significant resistance. On 5 June, 24 Pakistani troops were ambushed and massacred while inspecting a Somali weapons storage facility. The UN reacted by passing a resolution calling for the arrest of those responsible.¹³³ Additionally, the US deployed four AC-130H gunships to Djibouti to conduct a reprisal raid on Aideed’s facilities in Mogadishu. Gunships fired on several of Aideed’s vital installations from 12 to 16 June. Airstrikes to punish Aideed were designed to compel clan leaders to halt attacks on UN forces and to deter further attacks. Efforts to coerce

¹³¹ “Ambush in Mogadishu.”

¹³² Ibid.

¹³³ Ibid.

the clan leaders were initially successful. Following the gunship attacks, Mogadishu became relatively quiet and clan leaders began to discuss options for removing Aided in order to appease UN forces.¹³⁴

Increased US efforts to disrupt clan activities destabilized the delicate situation and derailed coercive efforts. Elements of the 10th Mountain Division were designated as a quick reaction force. They had no armor, but did have AH-1F Cobra helicopter gunships. On 12 July, AH-1Fs fired on a building housing a clan leader meeting and killed several Somalis.¹³⁵ Ironically, the meeting was held to discuss options for dealing with Aided, but the US attack ended the potential for clan cooperation with the UN mission. The nation building mission was transformed into a limited war with the Mogadishu clans in general.¹³⁶

The clans responded to the increased use of force. On 8 August, four American soldiers were killed by a remotely detonated mine. Six more soldiers were wounded two weeks later in another mine attack. The US responded by deploying TF Ranger, a joint special forces mission under the command of Major General William Garrison, to capture Aided and his key lieutenants. The Task Force consisted of Army Special Forces along with AH-6 “Little Bird” attack helicopters and MH-60 lift helicopters of the 160th Special Operations Aviation Regiment. In addition, General Thomas Montgomery, commander of US conventional forces in Somalia, requested armored reinforcements in recognition of the deteriorating situation in Mogadishu. Similarly, General Garrison

¹³⁴ Ambassador Robert B. Oakley, keynote address, The Role of Aerospace Power in Joint Urban Operations Conference, Hurlburt Field, Florida, 24 March 99.

¹³⁵ “Ambush in Mogadishu.”

¹³⁶ Oakley.

requested AC-130s, which had left Djibouti to support Operation Deny Flight over Bosnia. Secretary of Defense Aspin denied the requests.¹³⁷

Between August and the final mission on 3 October, TF Ranger conducted seven missions intended to capture Aideed's key lieutenants. The first six missions achieved some success, capturing a number of Aideed's lieutenants. The raids were conducted during both day and night, with helicopter insertion and vehicle convoys. Throughout the period, there was a constant presence of US helicopters over Mogadishu that accustomed the Somalis to helicopter operations. Acclimating Somalis to the presence of helicopters allowed TF Ranger to conduct raids with minimal change in normal activities, thereby preserving some element of surprise. Unfortunately, acclimatization also caused the Somalis to lose their fear of helicopters. Helicopters became high-payoff targets for the Somalis.¹³⁸

The seventh raid on 3 October, was near the Olympic Hotel, where a meeting was underway among several high-ranking members of Aideed's clan. The plan called for Army Special Forces to be inserted into the narrow, dusty streets by helicopter, conduct the raid, and be extracted by a waiting convoy of trucks and high mobility, multi-purpose wheeled vehicles (HMMWV). Security for the raid was provided by MH-60s orbiting slowly just above the buildings, armed with only snipers, and AH-6 helicopters as additional fire support. The daylight raid met heavy resistance in the form of rocket-propelled grenades (RPG) and small arms fire. One of the MH-60s orbiting the site was shot down by an RPG. The downed helicopter prompted a rescue mission that resulted in

¹³⁷ Jonathan Stevenson, *Losing Mogadishu: Testing U.S. Policy* (Annapolis, Naval Institute Press, 1995), 58; Bowden, 105.

¹³⁸ Major James H. Bradley, Army SOF Aviation in Urban Operations, The Role of Aerospace Power in Joint Urban Operations Conference, Hurlburt Field, Florida, 24 March 1999.

the loss of another helicopter and significant damage to several others. The most significant result of the initial shootdown was that the raid, relying on surprise and speed, deteriorated into a protracted conflict with enraged Somalis.

Throughout the battle, attack helicopters flew countless close air support missions and an MH-60 resupplied the forces defending the original crash site. However, the lightly armed AH-6s were unable to secure an extraction site or provide a clear path for ground convoys. The second MH-60 was also shot down by an RPG. Ground forces defending the first crashed helicopter were unable to reach the second. Somalis eventually overran the second crash site, defended by two snipers inserted by helicopter and by surviving crewmembers. The defenders were killed, save for the pilot, Chief Warrant Officer Michael Durant, who was taken prisoner. The extraction convoy and two relief convoys of soft-skinned trucks and HMMWVs were unable to reach the crash sites due to heavy small arms fire, and returned to the airport compound with heavy casualties. Around dawn on 4 October, US forces supported by Pakistani and Malaysian armored vehicles successfully extracted the remaining forces. The battle lasted about 18 hours, leaving 18 Americans dead, one taken prisoner, and 78 wounded. Estimates of Somali casualties were as high as 1000 dead.¹³⁹

As a result of the American casualties, President Clinton sent reinforcements in the form of tanks, an aircraft carrier, and AC-130 gunships, but abandoned the hunt for Aideed and ordered all American forces out of Somalia by 31 March 1994. AC-130 gunships deployed from Italy to Kenya and began operations over Mogadishu days after the 3 October battle. Ambassador Robert Oakley went to Mogadishu and demanded the

¹³⁹ Ibid.

release of CWO Durant. He advised Aideed's representatives that the US would use all available force to free Durant and noted that many Somalis would die in any rescue effort. Aideed released Durant after twelve days in captivity.¹⁴⁰ All UN peacekeeping forces were finally withdrawn from Somalia on 3 March 1994 under Operation United Shield.¹⁴¹

The Role of Airpower

At the tactical level, airpower was used for deterrence, compellence, and brute force in Somalia. First, the presence of combat aircraft, AC-130s and AH-1s, at the beginning of UNOSOM II provided some deterrence to coerce the rival clans to allow the humanitarian assistance operation to proceed. Airpower was a coercive mechanism because it demonstrated, as a show of force, US resolve to conduct humanitarian operations. Beyond the coercive mechanism, airpower supported UN ground operations.

Second, airpower was used for compellence. Following the ambush of Pakistani forces, US Air Force AC-130H gunships attacked several complexes owned by Muhammad Farah Aideed in a partially successful effort to compel him to change his behavior toward UN forces. These attacks also provided a mechanism to deter other clans from interfering with UN operations.

Unfortunately, continued attacks undermined the coercive effect of the initial airstrikes. The difference between the 12-16 June AC-130 attacks on Aideed's compounds and the 12 July AH-1 attack was that the helicopters attacked a meeting

¹⁴⁰ Mark Bowden, *Black Hawk Down: A Story of Modern War* (New York: Atlantic Inc, 1999), 327-328.

¹⁴¹ Federation of American Scientists (FAS) Military Analysis Network. "Operation United Shield," no date, 3; on-line, Internet, 25 February 1999, available from http://www.fas.org/man/dod-101/ops/united_shield.html

between other clans rather than Aided's installations. The perception of escalation changed the relationship between the clans and UN forces. Aided no longer had the option to change his behavior, he was under siege and therefore compelled to defend himself rather than cooperate with UN wishes.¹⁴² Additionally, clans that were meeting to discuss ways to cooperate with the UN found themselves at war with the US. Therefore, the July 12 attack appears to have undermined the coercive effect of previous attacks.¹⁴³ These attacks represented a transition from the use of airpower as a coercive mechanism to the use of air and land forces in a brute-force manner to disrupt clan activities. Events showed that the UN, and specifically the US, did not have the political will to prosecute fully this course of action.

It is important to understand that the initial airstrikes did not directly support ground forces, as is normally the case in close air support. While ground forces were used to control fire, the strikes on Aided's compounds were punitive operations intended to compel a change in behavior. Therefore, the airstrikes supported the overall UN mission without directly supporting ground forces, thereby demonstrating that precision airstrikes can be used as a primary mechanism to achieve operational goals in urban operations.

Even beyond UNOSOM II, airstrikes against Somali clans sent a message to the international community. By striking Aided's complexes, the UN sent an ambiguous message to anyone that may consider future interference with UN or US operations throughout the world. The airstrikes initially provided a clear message that the UN would not accept interference with its operations. However, in the face of relatively light casualties, UN and US resolve collapsed. The UN and US apparently lacked the resolve

¹⁴² "Ambush in Mogadishu."

to prosecute fully the UN mandate. This lack of resolve undermines future operations by signaling that casualties may cause mission failure by destroying political resolve.

Following the 3 October battle at the Olympic Hotel, AC-130s returned as part of the effort to compel Aideed to return Chief Warrant Officer Mike Durant. The presence of the gunships, which terrified the Somalis, was at least partially responsible for convincing Aideed that the US was serious about implied threats to use all necessary force to secure Durant.¹⁴⁴

Finally, airpower was used to support brute-force operations. Task Force Ranger's efforts to capture Aideed and his lieutenants relied heavily on airpower—in the form of rotary-wing lift, fire support, command and control, and information operations. Notably, the operations to capture Aideed and his lieutenants also had a coercive aspect. While the effort to capture individuals was, at the tactical level, a brute-force operation, at the operational level—that is, throughout Mogadishu—the act of capturing Aideed's forces could be considered a coercive means both to deter other clans from interfering with UN operations and to compel the Aideed's clan to stop interfering.

Airpower Missions

Airlift

Airlift operations in support of UN and US operations in Somalia involved both fixed-wing and rotary-wing aircraft. Fixed-wing airlift was used to deploy forces,

¹⁴³ Oakley.

¹⁴⁴ Ibid.

provide critical military equipment, relieve distressed people, transport a variety of UN and US officials, evacuate wounded, and withdraw forces.

Operations in Somalia posed two significant challenges to UN and US mobility operations. First, Mogadishu is almost halfway around the world from the continental United States. The enormous distances involved required a considerable logistics effort. Second, the infrastructure in Somalia was very austere. Mogadishu International Airport had no navigation aid and could sustain only two C-141 size aircraft on the ground at one time. The ramp was beginning to deteriorate and numerous obstacles made operations difficult.¹⁴⁵ One factor working in favor of mobility operations was that events in Somalia escalated over a long period, allowing sealift and maritime forces to be in position for the initial phase of Operation Restore Hope.

During Operation Provide Relief, airlift delivered over 28,000 metric tons of emergency aid.¹⁴⁶ The emergency aid helped to stabilize the situation in Mogadishu and reduced overall suffering, thereby supporting the UN mission.

Airlift was critical for the initial deployment of forces to establish operations in Mogadishu. During the first six weeks of Operation Restore Hope, Air Mobility Command aircraft delivered 24,500 tons of cargo and approximately 24,000 passengers to Somalia.¹⁴⁷ Kenneth Allard notes that “airlift is critical to peace operations: in most cases it is the fastest way to respond to a crisis and, until the arrival of sealift, it is the only way to sustain the initial deployments of peacekeepers.” While the vast majority of

¹⁴⁵ Lieutenant Colonel John L. Cirafici, *Airhead Operations-Where AMC Delivers: the Linchpin of Rapid Force Projection* (Maxwell Air Force Base, AL: Air University Press, 1995), 38.

¹⁴⁶ Allard, 3.

¹⁴⁷ David Kassing, *Transporting the Army for Operation restore Hope* (Santa Monica CA: Rand, 1994), 26.

cargo entered Somalia through the ports, airlift played a critical role in establishing and maintaining operations by transporting vital supplies and personnel.¹⁴⁸ Throughout the operation, and particularly after the 3 October battle, aeromedical evacuation gave wounded in one of the most underdeveloped parts of the world rapid access to advanced facilities in Europe.

Rotary-wing airlift was used to insert Special Forces raids. The mobility provided by helicopter assets allowed Task Force Ranger to react quickly to breaking intelligence and achieve surprise and was, therefore, essential to their mission. Unfortunately, helicopters were not always capable of recovering forces after they had been inserted into the narrow streets of Mogadishu. This was due to both the complication of urban terrain and the inability of the available firepower to secure potential landing zones, including rooftops.

Inflight Refueling

Inflight refueling was essential to America's ability to project power almost halfway around the world. Both the C-5s and C-141s used inflight refueling to maintain an air-bridge to Somalia. In addition, the AC-130s required tankers to provide inflight refueling for extended missions flown out of Kenya. Gunship coverage over Mogadishu would have been severely reduced without tankers. In cases when tankers were unavailable, gunships landed at the Mogadishu airport to refuel, placing these high value assets at risk from mortars, small arms, and RPGs.

¹⁴⁸ Allard, 44.

Surface Attack

Surface attack, like airlift, was conducted by both fixed-wing and rotary-wing aircraft. First, carrier-based attack aircraft flew several missions over the city of Mogadishu, but they were not used to attack targets.¹⁴⁹ Therefore, they did not represent a credible threat to the Somalis. Continued presence without demonstrating UN resolve to use the significant capability of carrier aviation undermined any deterrent capability that these forces could have provided.

The AC-130s, in contrast, attacked Aideed's compounds on their first appearance over Mogadishu. The Somalis were immediately impressed by their capability and had little reason to feel that gunships would not be used for future operations. Following the 3-4 October battle, gunships returned to Africa and Mogadishu became relatively quiet when AC-130s returned overhead and advertised their presence by firing just outside the city.¹⁵⁰ The gunship show of force suggests that the combination of a demonstrated capability and the resolve to use that capability was an effective deterrent to clan forces within Mogadishu.

The gunships also provided a 24-hour capability to support ground operations during the periods when they were deployed into theater. Gunships are optimized for night operations because they are relatively vulnerable. However, the Somalis had no weapon systems capable of downing an AC-130, enabling the AC-130s to operate safely in daylight as well. Along with the unmatched communications capability, high-resolution imaging sensors, and formidable firepower, the AC-130's endurance—extended by

¹⁴⁹ Major Thomas J. Sexton, Air Force Special Operations Command, Maxwell AFB, AL, Interview by the author, 8 April 1999.

¹⁵⁰ Ibid.

inflight refueling—made it the best available airpower asset for attack operations in Mogadishu. Unfortunately, fixed-wing gunships were not deployed to the theater to support TF Ranger.

Attack helicopters both conducted independent attack missions and supported ground forces. The AH-1s were effective in attacking buildings where clan meetings were in progress. The Somali's respected and feared the AH-1, and therefore it provided some deterrent capability.¹⁵¹ The AH-6s were somewhat less effective in suppressing attacking Somali mobs during the 3 October battle. Their limited firepower was insufficient to force the clan forces to disengage from the besieged Rangers. Events suggest that the AH-6 did not garner the respect that the AC-130 and AH-1 did.

Information Operations

Throughout operations in Mogadishu, “perception management” was a major portion of the UN strategy to insure that Somalis understood the good intentions of the multinational force.¹⁵² Airpower was used to conduct information operations by dropping leaflets and using loud speakers.¹⁵³ Aircraft also conducted direct attacks against Aideed's capability to disseminate information. The Quick Reaction Force destroyed Radio Mogadishu on 12 June, thereby denying Aideed a broadcast capability.¹⁵⁴

¹⁵¹ Kent DeLong and Steven Tuckey, *Mogadishu! Heroism and Tragedy* (Westport Conn: Praeger, 1994), 62.

¹⁵² Rick Brennan & R. Evans Ellis, *Information Warfare in Multilateral Peace Operations: A Case Study of Somalia* (Washington DC: Office of the Secretary of Defense, Net Assessment, 1996), 6-7.

¹⁵³ Stevenson, 59.

¹⁵⁴ Brennan & Ellis, 16.

The constant presence of helicopters over Mogadishu was intended to desensitize the Somalis to the movements of TF Ranger. This presence acted as a deception operation to deny the clans the knowledge of actual raids until they were underway. Unfortunately, the fact that helicopters normally flew without incident gave US forces the false impression that helicopters were survivable over the city.

Communications, Command, Control, and Reconnaissance

Air and space assets provided communications, command, control, and reconnaissance capability to the joint and multinational operation. Satellite communications provided global command and control of US forces in Somalia. The command helicopter, flying above the battle in Mogadishu, allowed the air-mission commander to observe and direct forces throughout the battle.¹⁵⁵

A variety of assets provided imagery of Mogadishu that was critical to planning and execution of missions throughout UNOSOM II. Navy EP-3 Orion aircraft provided the Joint Operations Command Center real-time imagery of the city. OH-58D Kiowa scout helicopters provided additional reconnaissance and surveillance capability.¹⁵⁶

Airpower Lessons

Official US Army lessons learned from UNISOM II, as well as criticism in professional journals, speak mostly to unity of command and policy issues. The US Army also identified lessons about specific tactics, techniques and procedures for existing

¹⁵⁵ DeLong and Tuckey, 39.

¹⁵⁶ “An Introduction to Somalia: Somalia-Operations Other Than War.” Also see DeLong and Tuckey, 7.

capabilities.¹⁵⁷ There is little discussion about the operational implications of tactical decisions in Mogadishu and the lessons learned do not address shortfalls in, or unused capability of, airpower.

One of the most frequent criticisms of UNOSOM II was the conspicuous lack of armor and fixed-wing gunships during operations conducted by TF Ranger. Both of these capabilities were available to the US military, but were unavailable due to policy decisions. Therefore, the criticism is of the policy rather than any lack of military capability.

Capability

The 3 October battle demonstrated the hazard of misunderstanding the capabilities and limitations of airpower, and specifically helicopters, in urban combat. Task Force Ranger required close air support capable of suppressing hostile fire. To this end, two MH-60s, armed only with snipers, were in a low orbit over the objective, and two AH-6 Little Birds, armed with 7.62mm miniguns and 2.75 inch rockets, were in a high orbit.¹⁵⁸ The more heavily armed AH-1s of the 10th Mountain Division, carrying 20mm cannon and TOW antitank missiles, were not part of the raid package. The AH-1s were not under the command of TF Ranger and did not train for the Ranger mission. Also, General Garrison felt that the raid package had all of the fire power it required, despite

¹⁵⁷ US Army lessons learned from UNISOM II can be found at the Center for Army Lessons Learned (CALL), Ft Leavenworth, KS; on-line, Internet, available from <http://call.army.mil>. For some of the debate about UN intervention see: Jarat Chopra, Age Eknes and Toralv Nordbo, "Fighting for Hope in Somalia," *Journal of Humanitarian Assistance*, 26 October 1995, n.p.; on-line, Internet, 5 May, 1999, available from <http://www-jha.sps.cam.ac.uk/a/a006.htm>. Also see: Earl H. Tilford, Jr., "Two Perspectives on Interventions and Humanitarian Operations," n.p.; on-line, Internet, 25 February 1999, available from <http://carlisle-www.army.mil/usassi/ssipubs/bubs97/humanops/humanss.htm>.

¹⁵⁸ Ibid., 40.

the lack of AC-130s.¹⁵⁹ However, as events showed, the MH-60s were clearly ineffective at the suppression mission, while the virtually unarmed helicopters, orbiting well within range of every weapon possessed by the clans, advertised the raid's location and drew fire from well beyond the immediate objective area.

After the first MH-60 was shot down, Little Birds flew close air support missions virtually nonstop for over twelve hours. While these heroic missions aided the survival of the ground forces, their limited firepower was insufficient to repel advancing Somali militia. Helicopter extractions were impossible because the available airpower could not isolate US ground forces from Somali forces or suppress hostile fire. Therefore, in the context of TF Ranger, the available airpower did not possess the capability to produce required effects. This is why the absence of AC-130 support has been so heavily criticized. The more substantial firepower and shock effect of the 105mm, 40mm, and 20mm cannons— or weapons from other attack aircraft, with the capability to deliver ordnance with extreme accuracy in close proximity to friendly troops—could have suppressed clan militias and isolated US ground forces long enough to affect a helicopter extraction.

Further, and more significantly, the aircraft not only were incompatible with the task mission, but also represented the single greatest potential for mission failure. Even before the 3 October mission, a downed helicopter was considered the worst-case scenario for the raids.¹⁶⁰ In addition, the loss of an American helicopter on 25 September

¹⁵⁹ Bradley.

¹⁶⁰ Master Sargent Timothy Wilkinson, Air Force Special Operations Command, Hurlburt Field FL, interviewed by author, 25 March 1999.

clearly demonstrated that the clans possessed both the will and capability to down US aircraft.¹⁶¹

The events of 3-4 October suggest that, particularly in a politically delicate operation, misusing airpower can have cascading effects. That is, if available airpower cannot produce desired effects, the entire mission may be at greater risk. Beyond the increased risk, aircraft can represent an unnecessary weak link in the mission. Exposing aircraft unnecessarily gave the Somalis a potentially decisive target and, thereby, motivated them to vigorously attack US forces. The vulnerable aircraft proved to be the decisive target for the tactical battle and, ultimately, for US political will.

Convoys of thin-skinned vehicles proved vulnerable during the 3-4 October battle. Each of the four ground convoys participating in the battle took casualties. One became lost causing delays and more casualties. The lessons from this are twofold. First, as a minimum, ground convoys require armor in a hostile urban environment. Moreover, ground convoys should be avoided in favor of a secure landing zone for helicopter transport, if possible. Second, when convoys are used, aircraft should be integrated into the ground scheme of maneuver to escort and guide convoys through hazardous and confusing environment of urban combat. This was identified, but only partially addressed by the Center for Army Lessons Learned.¹⁶² The convoys repeatedly had to alter course due to unforeseen roadblocks. The mission commander had an aerial view of the city provided by datalink from aircraft, but attempts to relay directions through the

¹⁶¹ Jarat Chopra, Age Eknes and Torolv Nordbo, "Fighting for Hope in Somalia," *Journal of Humanitarian Assistance*, 26 October 1995, n.p.; on-line, Internet, 5 May, 1999, available from <http://www-jha.sps.cam.ac.uk/a/a006.htm>.

¹⁶² Captain Phillip Parker, "Convoy Protection," *News From the Front!* The Center for Army Lessons Learned, February 1994, 1-2.

tactical operation center failed because of excessive steps involved in relaying information.¹⁶³ Aircraft from the 10th Mountain Division were successfully integrated into the final convoy of APCs and tanks.¹⁶⁴ Without the capability to see into buildings, aircraft could not have identified all of the hazards facing the convoys. It is likely, however, that aircraft armed with munitions that delivered sufficient shock effect, in particular the AC-130, could have guided convoys and cleared the way with firepower.

Survivability

The events of 3-4 October show more than a requirement for armor and adequate firepower in urban operations. The loss of two helicopters, and damage to two others, by RPGs clearly demonstrates the vulnerability of helicopters in even the most unsophisticated air defense environment. The events of 3-4 October do not suggest, however, that helicopters are simply not survivable in modern urban combat. All aircraft survived the infiltration phase of the mission. Both shootdowns occurred only after prolonged exposure to lethal fire. The first helicopter to be hit, Super 61, had been orbiting just above the buildings for approximately 30 minutes before it was finally hit. The second, Super 64, was hit a full ten minutes later.¹⁶⁵ Two others, the search and rescue and resupply aircraft, were also hit by RPGs immediately after they began to hover over Super 61, but managed to return to safety.¹⁶⁶ These facts suggest that prolonged exposure to potentially lethal ground fire is tantamount to waiting for the odds

¹⁶³ Bradley.

¹⁶⁴ DeLong and Tuckey, 64-65.

¹⁶⁵ Clifford E. Day, "Critical Analysis on the Defeat of Task Force Ranger," (Maxwell AFB, AL: Air Command and Staff College, 1997), 39.

¹⁶⁶ Bradley.

to catch up with you. Post-mission interviews showed that everyone understood that “with all the rocket-propelled grenade fire in the air, it was just a matter of time before helicopters were going to start getting hit.”¹⁶⁷

In the evening and night that followed the initial shootdowns, AH-6s and AH-1s flew countless attack missions without loss. The attack helicopters had four distinct survivability advantages over the slowly orbiting MH-60s. First, they were physically smaller, thus presenting a more difficult target. Second, the attacks were conducted at much higher speeds than the low orbit sniping, thereby reducing exposure. Third, the bulk of the attack operations were conducted under the cover of darkness against an enemy with out night vision capability. Fourth, aircraft running in on an attack telegraphed their hostile intentions and, thereby suppressed hostile fire against themselves.

The six raids prior to 3 October and almost constant helicopter presence over the city during that time further decreased aircraft survivability. First, any shock effect of helicopters was exhausted long before the ill-fated mission. Second, repeated operations gave the Somalis valuable intelligence about the concept of operations and time to develop effective strategies to counter US operations. Third, the success of the first six missions led to a false assumption that the aircraft package was appropriate for the missions. Clearly, the package was less than optimal for a mission that faced heavy resistance.

The lesson about aircraft survivability from UNOSOM II is fourfold. First, the successful infiltration phase suggests that, in a relatively benign environment,

¹⁶⁷ DeLong and Tuckey, 13.

coordinated rotary-wing assaults can be survivable, even in daylight, if the operation exploits surprise and limits exposure to hostile fire. Clearly, as the threat from groundfire increases, techniques such as night operations, deception, and very limited exposure will become essential. Second, as demonstrated by the two shootdowns, prolonged exposure to hostile fire significantly limits survivability. Third, attack operations, particularly at night, can be survivable in a small arms environment. Fourth, the failure following the first six successful missions graphically reaffirms the adage that “complacency kills.

Chapter 6

Operation Uphold Democracy, Haiti, 1994

For to win one hundred victories in one hundred battles is not the acme of skill. To subdue the enemy without fighting is the acme of skill.

—Sun Tzu

Hence his true aim is not so much to seek battle as to seek a strategic situation so advantageous that if it does not of itself produce the decision, its continuation by a battle is sure to achieve this.

—Sir Basil Henry Liddell Hart

Operation Uphold Democracy was planned and initiated as a forced entry into Haiti to remove an illegal government through a brute-force operation. In the last hours before H-hour, diplomatic efforts relying heavily on the coercive effect of the approaching invasion force succeeded in obtaining an agreement by which Lieutenant General Raoul Cedras would step down and allow the reinstatement of Jean-Bertrand Aristide, the democratically elected President. The military operation then continued as an unopposed entry to support humanitarian operations.

The intervention in Haiti demonstrated that airpower can play an essential role both in achieving political goals and in supporting combat and non-combat operations in a variety of urban areas in a smaller-scale contingency.

Background

Haiti has been plagued by political instability since gaining independence from France in 1804. Most recently, the brutal dictator Jean-Claude “Baby Doc” Duvalier was overthrown by a military coup in 1986. Elections were held and Jean-Bertrand Aristide was elected president of Haiti in December 1990. Aristide in turn was overthrown by another military coup in 1991. The commander of the Haitian armed forces, Lieutenant General Raoul Cedras, took control and began a period of violence and economic chaos. Large numbers of Haitians sought refuge in the US, risking their lives in hastily constructed boats and rafts. The United Nations and the international community imposed economic sanctions and political pressure that convinced Cedras to sign the Governors Island Accord with President Aristide, living in exile in the US. The accord was a phased plan to reestablish democracy and return Aristide to power, but was never honored. Instead, Cedras forced UN observers out of Haiti, further isolating the Caribbean country from the world community.¹⁶⁸

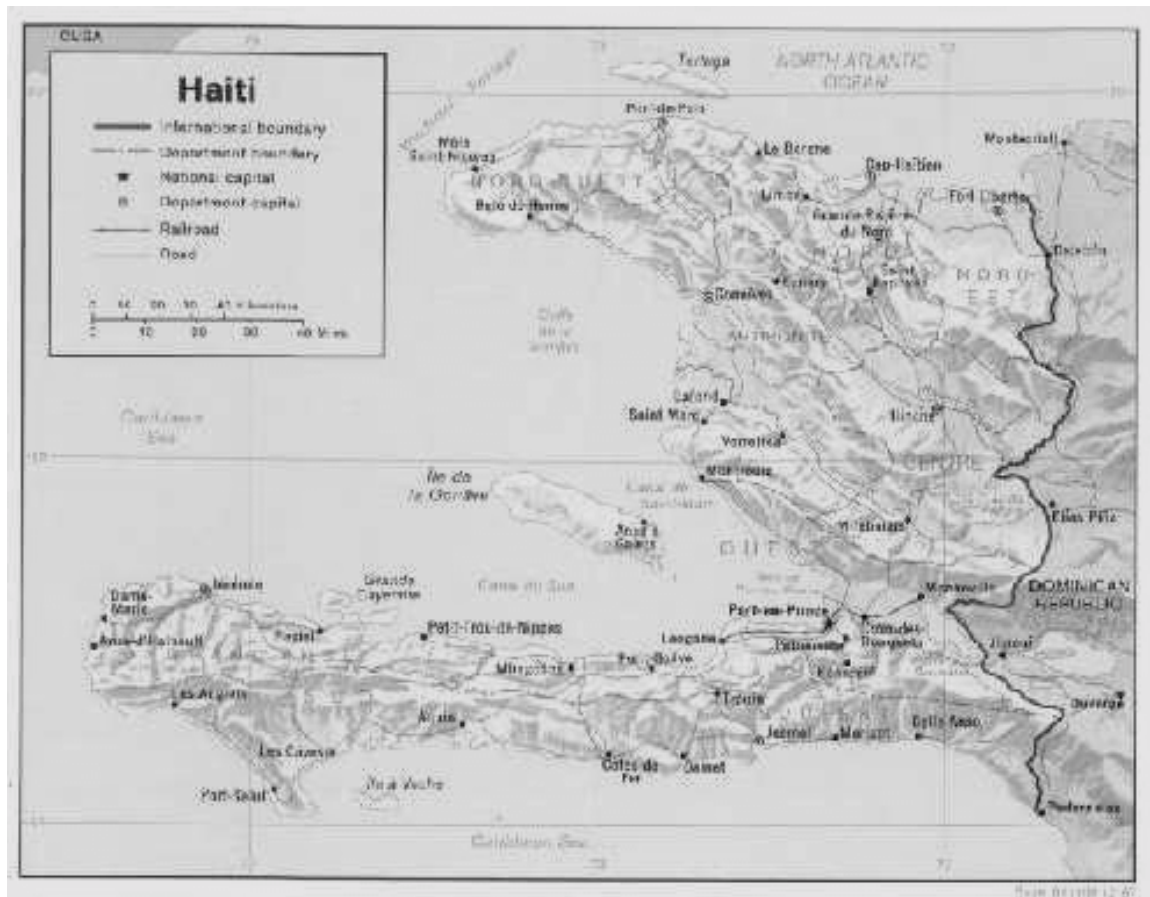
The UN continued to negotiate for the return of Aristide, and in January 1994 President Clinton established Joint Task Force (JTF) 180 to begin planning an operation to return democratic rule to Haiti. The 24th Marine Expeditionary Unit (MEU), comprised of 1,900 Marines, took up station off Haiti for the possibility of a non-combatant evacuation operation of the 3,000 American citizens in Haiti. The US began to build an international coalition, consisting of Great Britain and Caribbean and South American countries, to prepare for a potential peace enforcement mission.¹⁶⁹

¹⁶⁸ United States Joint Chiefs of Staff, *Joint Military Operations History Collection* (Washington, D.C., 1997), VII-1.

¹⁶⁹ Ibid., VII-2.

The UN Security Council passed resolution 940 on 31 July to allow a multinational invasion of Haiti in order to reestablish democracy. A month later, the UN abandoned efforts to negotiate a transfer of power from the ruling military junta to President Aristide. The Clinton administration decided to invade, but continued to negotiate with Cedras. The invasion was set for 19 September, with an H-hour of 0100 local time. As US forces marshaled for the invasion, President Jimmy Carter, Senator Sam Nunn, and newly retired General Colin Powell negotiated directly with Cedras. Late on 18 September, with the airborne forces and attack aircraft enroute to Haiti, Cedras agreed to relinquish power to President Aristide by 15 October.

The night forced entry became a daylight unopposed entry with the cooperation of the Haitian military. The planned forces still secured the country and began humanitarian assistance and civil affairs operations. Cedras resigned on 10 October and departed two days later for asylum in Panama. President Aristide was returned to power on 15 October 1994. The multinational effort to restore democracy and order to Haiti continued as Operation Uphold Democracy until 31 March 1995, when it was replaced by a UN mission with lower levels of US involvement.



Source: CIA Base 801109 12-87

Figure 8. Haiti

Operations

With the establishment of JTF 180, the military began planning an invasion of Haiti. Lieutenant General Henry H. Shelton, commander of the XVIII Airborne Corps, was assigned as commander, and the XVIII Airborne Corps became the JTF headquarters, mirroring the arrangements for the invasion of Panama. The JTF consisted of an overwhelming force of approximately 34,000 troops from all five armed services, including the US Coast Guard. Major units involved included the 10th Mountain Division, the 82nd Airborne Division, a Special Purpose Marine air-ground task force, and Special Operations Forces. The invasion force was transported to the island by 15 Navy ships—

including the aircraft carriers *Eisenhower* and *America*, which were loaded with 116 Army and Air Force helicopters instead of the usual naval aircraft—and nearly 100 C-130s and C-141s carrying approximately 3,000 troops of the 82nd Airborne Division.¹⁷⁰ Combat airpower in the form of attack helicopters, A-10s, and AC-130s provided firepower for the planned forced entry and follow-on peace-enforcement operations. Air Force F-15Cs provided security in case Cuba aircraft decided to interfere with the operation.

Although the peace enforcement mission turned into a peacekeeping mission just four hours before H-hour, the invasion continued, after a delay to allow forces to land in daylight. The airborne portion of the invasion was canceled and the airdrop formations carrying elements of the 82nd Airborne Division returned to Pope Air Force Base. However, most other forces landed and reached their objectives in Haiti. Attack and support aircraft proceeded to staging bases in Puerto Rico and Guantanamo Bay, Cuba.

The occupation of Haiti went smoothly, with few incidents. Soldiers and marines, along with escorting attack helicopters and gunships, secured their objectives and began to disarm both the Haitian military and civilians. Humanitarian assistance and civil affairs operations got underway immediately and continued past the end of Operation Uphold Democracy.¹⁷¹

A massive logistics effort was required to sustain the operation. In the first 30 days alone, sealift transported equipment and supplies totaling 1,854 containers, 5,600

¹⁷⁰ Major Paul J. Montgomery, “Force Selection for Obtaining a Lodgment in a MOOTW Environment: A Monograph” (School of Advanced Military Studies Monograph, Ft Leavenworth, KS, 1997), 15-16.

¹⁷¹ Ibid., VII-4-VII-8.

vehicles, two million cubic feet of other cargo, and over seven million gallons of fuel. Air Mobility Command provided airlift of supplies equivalent to 565 C-141 loads.¹⁷²

After the return of President Aristide, Operation Uphold Democracy was replaced by a UN-led multinational effort. American forces continued to support UN operations and help return order and stability to Haiti.

The Role of Airpower

The fundamental difference between the operations in Panama and Haiti is that coercion succeeded in Haiti. Operation Uphold Democracy was planned as a forced entry, or invasion, much like Operation Just Cause. However, just four hours before the invasion, the threatened use of military force—along with the skillful negotiations by President Carter, Senator Nunn, and General Powell—compelled General Cedras to step down. This represents an optimal use of military force. Rather than executing the forced entry option the US was able to conduct an unopposed entry into Haiti, thereby avoiding loss of life on both sides.

Airpower was an essential element in the successful use of compellent force. The overwhelming majority of the invasion was to arrive via C-130 and helicopter airlift. The initial assault was to include airborne assaults by elements of the 82nd Airborne Division and Special Operations Forces. More soldiers and marines were to conduct air assault operations across the country. Even with the invasion fleet arrayed off the coast, General Cedras would not agree to resign. It took the departure of the airborne forces, signaling that the invasion was enroute, to convince him to step down.

¹⁷² Ibid., VII-5.

At the operational and tactical level, airpower provided coercive force to help maintain the peace in Haiti. AC-130 gunships provided twenty-four hour presence during the first weeks of the occupation. Their presence was a clear indicator that overwhelming firepower was readily available to US forces. Attack helicopters likewise provided a presence to deter the Haitian military from interfering with ongoing operations. Admittedly, airpower provided only a portion of the combat power that deterred the Haitian military, and it is both unnecessary and impossible to determine the share of deterrence that airpower contributed. Ground forces alone could have represented a deterrent threat, but it is reasonable to assume that airpower increased the threat and, therefore, made the operation safer for the forces involved.

Missions

Airlift

By far the largest physical contribution made by airpower was airlift. Airlift operations included the airborne invasion force from Pope Air Force Base and heliborne forces from the *Eisenhower* and *America*. Although, the bulk of materiel was transported by sealift, vital and time-critical supplies and forces were brought in by C-130 and C-141 airlift.

Air Superiority

Although there was no direct air threat in Haiti, F-15s provided security for the invasion force and subsequent operations by ensuring air superiority over the area.

Inflight Refueling

Inflight refueling was absolutely essential to sustain the combat and command and control aircraft enroute to and over Haiti. Additionally, inflight refueling allowed C-141s to drop off supplies in Haiti and return to the US without refueling on the ground, thereby increasing throughput and reducing the requirement for fuel to be brought into Haiti.

Surface Attack

Fixed- and rotary-wing attack aircraft provided firepower and security for both the planned invasion and peacekeeping operations. First, AC-130s and attack helicopters provided essential preassault fires for the planned forced entry. Fortunately, their firepower was not required. Second, the continued presence of these aircraft provided both a deterrent threat and on-call firepower for forces securing the country. The A-10s provided additional firepower for ground forces.

Communications, Command, Control, and Reconnaissance

A variety of command and control aircraft coordinated flight operations into and around Haiti throughout Operation Uphold Democracy. Crews on E-3 Airborne Warning and Control System (AWACS) aircraft, deconflicted aircraft arrivals, departures and on-station patrols, and coordinated inflight refueling,

Information Operations

Aircrews began conducting information operations before the planned invasion and continued throughout Operation Uphold Democracy. In the nights before the planned invasion, MC-130H Special Operations aircraft dropped leaflets on Port-au-Prince. Other

Special Operations aircraft, the EC-130 Commando Solo, broadcast radio and television messages throughout the operation. Dr James Corum concluded that “much of the credit for the lack of resistance to the US intervention in Haiti can be attributed to an effective psyops campaign, in which airborne psyops played an important role.”¹⁷³

Airpower Lessons

As a non-combat action, Operation Uphold Democracy yielded few specific lessons about the employment of airpower in urban environments. However, a grand lesson remains that military force, relying on airpower for both transportation and firepower, can work as a coercive mechanism to achieve strategic goals. The fact that General Cedras opted to resign rather than face an imminent invasion shows that, in some cases, military force can work as a coercive mechanism without requiring the actual use of force.

An additional lesson is that peacekeeping operations are primarily the realm of surface forces. The vast majority of peacekeeping, humanitarian assistance, and civil affairs operations in Haiti were conducted by ground forces. Still, air forces assisted the operations by providing part of the deterrent to the Haitian military and by providing essential transportation and logistics support to the ongoing operations.

¹⁷³ James Corum, “Airpower and Peace Enforcement,” *Airpower Journal*, (Winter 1996), 15-17.

Chapter 7

Conclusions and Recommendations

Strategy depends for success, first and most, on a sound calculation and co-ordination of the end and the means.

—Sir Basil Henry Liddell Hart

Conclusions can be drawn from the case studies in three broad areas. The first deals with the roles of airpower in achieving political and military goals in urban, smaller-scale contingencies (USSC). This answers the question; “how important was airpower to the operation and how was it used?” The second area examines some situations where airpower was either not used to its fullest potential or was actually misused. The third area identifies some potential opportunities for airpower to be more useful in future operations.

Airpower Roles

How important was airpower to the operation? An analysis of the case studies suggests that airpower was most important to mission success when rapid power projection was required. Airpower was also very important for reducing casualties and supporting all urban operations.

How was airpower used? That is, how did airpower achieve political and military goals in Schelling's scheme of coercion that includes both deterrence and compellence.¹⁷⁴

The case studies reveal that airpower can play an essential or critical role in strategic coercion to obtain political goals, and in operational and even tactical coercion to obtain military goals.

Airpower was sometimes *essential*. That is, the operation could not have been conducted without airpower. A *critical* role suggests that airpower, or certain airpower capabilities, contributed to achieving political goals to such an extent that the operation would have been significantly different in the absence of those capabilities. Reducing friendly and civilian casualties as well as collateral damage in politically sensitive operations can be considered mission critical. Finally, a *supporting* role suggests that airpower enhanced mission success as an element of the combined arms team. Those airpower capabilities that reduced risk to the operation or made operations proceed more smoothly are examples of supporting capabilities.

Mission Essential

Airpower was mission essential at the strategic level for two of the five case studies examined. Those cases, Panama and Haiti, represented major power projection efforts with objectives in urban areas. Also, both included either planned or actual urban combat. For Operation Just Cause, an airborne and air-assault forced-entry was the only option considered that gave the US the option to use overwhelming force quickly enough

¹⁷⁴ Schelling's definition of coercion includes both deterrence and compellence. Deterrence is coercion used to prevent an adversary from taking an action while compellence is used to change an adversary's behavior. If coercion fails, brute force can be used to force the desired behavior or remove the adversary's capability to act. See: Thomas C. Schelling, *Arms and Influence* (New Haven: Yale University Press, 1966)

to seize all major objectives without significant risk of the Panamanian Defense Force (PDF) taking American hostages or moving to establish a capable defense. Operation Uphold Democracy relied on airpower in much the same way as Operation Just Cause. Air insertion offered the only acceptable option for rapidly securing the country and, thereby, ensuring mission success and limited casualties.

Both of these cases demonstrate that when urban operations require surprise and rapid power projection, airpower is essential. The same is also true of power projection that does not involve urban operations. However, the very nature of urban operations—the proximity of civilians, often including American citizens, and the availability to the opposition of defensible buildings—tends to drive the requirement for surprise and the rapid build up of combat power to seize objectives before the situation degrades to an assault against defended urban terrain. Therefore, the requirement for rapidity is especially great in urban, smaller-scale contingencies.

At the operational and tactical levels, airpower proved essential to the siege of Beirut and to Operations Just Cause and UNOSOM II. The siege of Beirut counted on airpower to maintain air superiority over the operational area. Without air superiority, the Israeli Defense Force could not have mounted a siege operation without prohibitive interference from the Syrian Air Force. During Operation Just Cause, airpower was essential to the rescue of Kurt Muse and the rapid seizure of Torrijos/Tocumen International Airport and the Rio Hato military base. These three objectives required airlift to insert forces to seize objectives. Similarly, TF Ranger's tactical operations in Mogadishu relied on helicopter airlift to preserve the element of surprise.

Mission Critical

At the operational and tactical levels, airpower was critical to the success of the siege of Beirut, and Operations Just Cause, UNOSOM II, and Uphold Democracy. In Beirut, airpower provided a critical precision strike capability that allowed the Israelis to attack PLO targets in the most populated areas of the city, thereby denying safe haven to PLO forces. Due to impassable roads, airlift was critical for logistics. In Panama, preassault fires significantly reduced the risk to aircraft and ground forces participating in the attack. In addition, firepower from an AC-130 was critical to stopping Battalion 2000 at the Pacora River bridge. The bridge could have been secured with ground forces, but the planners opted to use airpower as the primary tool for denying the enemy access to the bridge. Follow-on close air support (CAS) also provided surgical firepower that reduced friendly casualties. Strikes against Aideed's complexes in Mogadishu demonstrated the criticality of airpower during Operation UNOSOM II. Close air support also helped limit casualties during the 3-4 October battle between TF Ranger and the Somali clans. The plan for the forced entry into Haiti called for preassault fires and CAS much like operations in Panama. The subsequent peacekeeping mission in Haiti also relied on air transportation and the availability of on-call CAS.

Mission Support

All five contingencies examined required airpower for support. The battle for Hue required surface attack missions by aircraft to augment artillery, naval gunfire and direct-fire weapons. Airlift supported the mission by delivering reinforcements and supplies and by evacuating wounded. In all cases, reconnaissance capability significantly supported the overall mission. Even during the Battle of Hue, spotters in O-1 Bird Dogs

relayed intelligence to command elements. During Operations Just Cause, UNOSOM II, and Uphold Democracy air- and space-based communications capability supported overall mission activities. In addition, airpower supported the information campaigns in all five cases.

Strategic Coercion

In the case of Haiti, the airborne assault force was an essential element in strategic coercion. That is, once the C-130s carrying elements of the 82nd airborne were enroute to Haiti, General Cedras was compelled to resign. Coercive use of military force succeeded in obtaining a political or strategic goal. The air assault capability of the invasion force on the two aircraft carriers was also an essential element in the successful coercion of the Haitian junta.

In some cases, airpower alone can be used as a coercive mechanism in USSCs. Two US operations not included in the case studies—Operation El Dorado Canyon, the 1986 bombing of Libya in retaliation for terrorist activity, and the 1998 cruise missile attack on Osama Bin Laden’s suspected chemical weapons facility in the Sudan—represent instances where airpower was used unilaterally in USSCs. Both of these operations used airpower in an effort to compel the offending parties to change their behavior. Another equally valid view is that the attacks were designed to deter future terrorist activities. The absence of ground forces does not negate the definition of urban operations and, when practicable, airpower alone is preferred as a measure to reduce the risk of friendly casualties.

In the case of the Siege of Beirut, airpower was a critical portion in coercing the PLO to quit the city. Although surface forces provided the bulk of firepower, eliminating the

potential safe haven in highly populated areas through the surgical use of airpower gave the Israelis considerable leverage against the PLO.

Operational and Tactical Coercion

Operation Just Cause provided several examples in which airpower was used as a coercive mechanism to achieve military goals at the tactical level. Those instances include occasions when US forces used the threat of gunships and attack helicopters as an essential mechanism to compel PDF soldiers to surrender. Gunships, in particular, were critical in Mogadishu when they helped convince Muhammad Farah Aideed to return Chief Warrant Officer Durant. Similarly, gunships and helicopters were used in Haiti to deter aggression by the Haitian military.

Opportunities Lost

This section examines the cases in which available airpower was either misused or not exploited to its fullest potential. Among the cases in this study there is only one obvious example of airpower being truly misused, that of Somalia, while there were many opportunities for airpower to play a more significant role than it did. However, an examination of the five case studies also reveals several other cases in which existing airpower capabilities could have changed the outcome of events. The most striking examples of lost opportunities for the exploitation of airpower occurred during Operation Just Cause and UNOSOM II.

During Operation Just Cause, sending SEALs to disable Noriega's private Learjet at Paitilla airfield proved to be a costly decision. The AC-130 assigned to support the SEALs' mission could have accomplished the mission easily without risking a ground

force. Regarding the Paitilla airfield attack, one Special Operations Officer said: “A gunship can’t see through the roof of a hangar, and as far as the Spectre being able to put fire on the enemy, it was too damn close.”¹⁷⁵ This comment highlights a tragic misunderstanding about operational art. In the first place, there was no requirement to “see through the hangar.” American forces knew where the Learjet was and a variety of aircraft could easily have destroyed it without risking US lives on the ground. If there had been a compelling reason to see into the hangar, an appropriate unit could have been assigned to observe the hangar from relative safety and call in gunship fire, much as in the case of the Pacora River bridge. Second, the best way to employ airpower is to avoid situations where the enemy is “too damn close.” In the absence of the SEAL team, the AC-130 could have fired one 105mm round into the hangar to disable the Learjet. There would have been no firefight between the SEALs and the PDF, and eight more Americans would have lived through the operation.

The battle in Mogadishu of 3-4 October 1993 remains another tragic example of lost opportunities for the employment of airpower. A miscalculation about the survivability of helicopters lead to the loss of two MH-60s around the Olympic Hotel. The tactical miscalculation had strategic ramifications that caused US forces to withdraw from Somalia. Further, the lack of AC-130s doomed TF Ranger to rely on helicopter gunships that lacked sufficient firepower to force the Somali militia to disengage from combat with American ground forces. Conversations with Army Special Forces officers also revealed misperceptions about airpower in urban operations, specifically the belief that gunships would not have been beneficial in Mogadishu because the fighting was too close.

¹⁷⁵ Thomas Donnelly, Margaret Roth, and Caleb Baker, *Operation Just Cause: The Storming of Panama*, (New York: Simon & Schuster Inc., 1991), 119.

Gunships are, in fact, accurate enough to bring in fire under extremely close conditions, and the munitions used can ensure the safety of friendly forces just a few meters away. Those forces that regularly train with gunships are aware of this fact. Moreover, the more robust firepower of the AC-130's weapons provides shock effect that might have convinced the Somalis to disengage. If not, the gunship crew could have physically established a perimeter around the crash sites by destroying or suppressing any forces that came near the Americans.

Future Opportunities

How can airpower contribute more significantly in future situations similar to those encountered in the case studies? The future promises not only increased capabilities, but the potential—and need—for changes in systems, force structure, doctrine, and training.

The most glaring example of a situation in which current and future capabilities could have made a difference was the Battle of Hue. Airpower at the time lacked any real adverse weather capability and, therefore, was only capable of being a minor supporting player during the bloody month-long battle. Increased capability to target accurately through weather and other obscurations will allow attack aircraft to play an essential role in future urban combat despite unfavorable weather.

Another opportunity suggested by Hue is the potential for airpower to conduct operational missions either independently or as the supported element. Because isolating the battlefield is considered essential to success in urban combat, operational commanders in the future may be able to use their air component independently to isolate the urban battlefield. Given mission-type orders to isolate the battlefield, the air component could allocate forces to deny an opposing force entry into the area. General

George Patton demonstrated this concept during the Ardennes offensive when he tasked General Otto Weyland and the XIX Tactical Air Command with protecting the Third Army's exposed flanks.¹⁷⁶ By issuing the air component mission-type orders to conduct an operational task, the combatant commander can free up other forces to join the battle.

Future environments for urban air operations are not likely to be as survivable as Panama or even Mogadishu. In both cases, several helicopters were destroyed by groundfire. In the case of Mogadishu, the loss of a single MH-60 was the catalyst for significant casualties and, ultimately, the collapse of political will. With the proliferation of infrared-guided surface-to-air missiles, future battlespaces will be significantly more dangerous for aircraft than Mogadishu was. Therefore, future urban operations must exploit weapons systems and tactics that provide greater survivability. The limited use of helicopters employing advanced tactics and fixed-wing gunships may be sufficient for some areas that do not include the presence of infrared guided missiles. However, in more threatening environments, remotely piloted vehicles and high-performance fighters may be required.

Current and future advances in precision guided munitions (PGM) also offer potential benefits to commanders in USSCs. With a wide variety of precision munitions, airpower professionals can tailor weapons to achieve desired effects. The level of civilian and friendly casualties experienced in Beirut and Hue can be avoided by replacing relatively inaccurate artillery and naval gunfire with PGMs.

¹⁷⁶ David Spires, *Airpower and Ground Armies: Essays on the Evolution of Anglo-American Air Doctrine 1940-1943*, ed. Daniel R. Mortensen (Maxwell AFB, AL: Air University Press, 1998), 153-154.

Summary

Airpower is an essential or critical element in the strategic, operational, and tactical portions of virtually every USSC. Due to improvements in adverse-weather capability and PGMs, combined with an increasing lack of tolerance for civilian or military casualties in smaller-scale contingencies—witness the contrast between the accepted level of casualties in the Battle for Hue and the 3-4 October battle in Mogadishu—airpower will play an increasingly vital role in future USSCs. Further, an evaluation of the mechanism for achieving political and military goals suggests that airpower can, in some cases, provide an effective coercive mechanism, in lieu of brute force, to achieve both political and military goals. Finally, the misuse of airpower or the failure to exploit fully its capabilities in USSCs can seriously degrade mission effectiveness. In the extreme case of Mogadishu, the tactical misuse of airpower caused strategic mission failure.

Recommendations

The US military must take certain actions in order to realize the full potential of airpower to contribute to future urban, smaller-scale conflicts.

Adverse Weather Capability

The US military should vigorously develop reliable, routine capability to deliver firepower in adverse weather. Currently, several weapon systems, including the AC-130U, F-15E, and F/A-18D have a limited weapons-delivery capability in adverse weather. The next generation AH-64 Apache Longbow will also have a limited all-

weather capability.¹⁷⁷ The Department of Defense should ensure that true adverse-weather capability is fully developed as quickly as possible. This entails more than just acquisition and test programs. Robust and realistic training programs will need to be implemented to ensure that aircrews are proficient with the all-weather capability of their weapon systems. This training should include an emphasis on urban targets and work in close proximity to friendly forces. Training with ground forces is essential to establish an appropriate level of understanding of airpower capabilities and limitations among ground force commanders. Along with the understanding will come a willingness to trust airmen to accomplish difficult tasks. Only with better understanding and trust, generated by joint training, can the entire combined arms team reevaluate the role of airpower in urban, smaller-scale contingencies (USSC).

Survivability

Helicopters have proven to be both essential and vulnerable in urban environments. Vertical lift is the most significant capability that sets rotary-wing aircraft apart from their fixed-wing cousins. Since all services operate helicopters, each should work in earnest to acquire technologies and devise tactics that make helicopters more survivable in urban environments. For attack helicopters, increased standoff capability, provided by improved missiles and sensors, will also help. Operating from higher altitudes and airspeeds will also increase survivability in cases where rocket-propelled grenades and ground fire are the main threats. For lift helicopters, tactical development may be the only way to increase survivability.

¹⁷⁷ Paul Jackson, editor in chief, *Jane's All the World's Aircraft 1998-99* (Alexandria VA: Jane's Information Group, Limited, 1998), 560, 563, 580, 665.

The AC-130 offers a more survivable weapon system for urban environments. However, the gunship's size, low speed, and limited maneuverability make it vulnerable to guided missiles. Despite sophisticated warning and countermeasure systems, the gunship will not be able to operate in all future urban environments, particularly during daylight. Unfortunately, as with helicopters, gunships possess unique capabilities that cannot currently be replaced. While fighter aircraft are more survivable and risk fewer lives in combat—the AC-130's crew complement ranges from 13 to 15—fighters cannot match the gunship's capability to maintain situational awareness with state-of-the-art sensors, communicate with ground forces and controlling elements, and deliver firepower with minimum maneuvering. Gunships, operating in an orbit, always have sensors and guns pointed at the target area. This gives them the ability to fire without telegraphing their intentions. Also, the large internal stores—a standard combat load includes 100 105mm and 256 40mm rounds—and loiter time allow the AC-130 to remain engaged for long periods.

A solution to the gap between gunship capability and fighter survivability may require an additional weapon system. The next generation fixed-wing gunship should maintain the capability of the current AC-130 while including increased survivability and the capability to deliver PGMs. A smaller and stealthier airframe with the capability for greater speed and maneuverability, and ejection seats, will be necessary to increase survivability. However, the aircraft must be large enough to carry a crew of four to six people in order to divide tasks and, thereby, maintain the current gunship's capability. An internal gun with significant munitions stores will be necessary to allow the next generation gunship to fire repeatedly without making attack runs. Precision munitions

should only be required for large or hardened targets and, therefore, should not constitute the primary weapon.

Weapons

There are four distinct actions that the Air Force should take in order to ensure the that it possesses and maintains appropriate weapons for urban combat. First, Air Combat Command (ACC) should survey, and test if necessary, current PGMs in order to determine their capabilities against urban targets. Those targets should include examples of structures found in urban areas around the world and particularly those believed to be potential candidates for USSCs. Concurrently, the Air Force, in coordination with the other services, should establish the required capabilities of PGMs for urban operations. Capabilities should include such things as the destruction of a building, the destruction of only one selected floor, and the destruction of only one selected room. If shortfalls are identified, materiel solutions should be sought.

Second, ACC and Air Force Special Operations Command should review existing training programs in order to ensure that realistic programs exists to prepare aircrews for urban operations. This training should include work with ground forces and sea forces in coastal environments.

Third, the Air Force should ensure that enough PGMs of appropriate types are acquired and maintained in order to prosecute a likely urban scenario. If precision weapons are not available due to budgetary constraints, airpower will not be able to fully contribute to urban operations. Misguided efforts to save money by over-limiting weapons procurement could ultimately result in greater civilian and military casualties, and increased collateral damage.

Fourth, the Air Force should pursue non-lethal weapons for aircraft. Nonlethal technologies require considerable advances to meet the requirements for range, size, weight, and power requirements for installation of aircraft. However, a viable non-lethal capability could change the military's approach to urban operations. Until technological advances allow the use of nonlethal weapons on aircraft, the Air Force could pursue less-lethal weapons. An example of a less-lethal weapon could be a small frangible bomb or a frangible round for the 105mm cannon on the AC-130.

Breaking the Paradigm

In order to exploit the above capabilities, the Air Force should immediately dedicate an office of primary responsibility to ensure that Air Force weapon systems are fully integrated into the Army and Marine Corps' urban experiments and training. This will require airpower and surface professionals to critically reevaluate some common wargaming and training paradigms. It is common for the surface components to downplay airpower's contribution to both wargames and training exercises. This is done to force the surface forces to fight a worst-case scenario and is thus believed to enhance training. While this type of artificiality is certainly useful at some levels and in certain cases, the unintended consequences of this practice may do more harm than good. By consistently downplaying the capabilities of airpower, surface forces may end up subconsciously dismissing airpower as mere additional fire support to be added to a plan after the ground scheme of maneuver is complete.

As this study shows, airpower can do much more than simply add fire support to the ground scheme of maneuver. Simulations and training should include the use of airpower as the primary instrument to achieve military goals in certain urban operations. In some

cases, airpower should be considered as the sole instrument for achieving military objectives. Ground forces should occasionally be used primarily as fixing forces, as was the case in Beirut. In many instances, placing ground forces at risk may only be required to secure an area sanitized by airpower. Only by breaking the paradigm of airpower as merely a limited supporting force can airpower's full potential in urban, smaller-scale conflicts be realized.

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